

PB83-127076

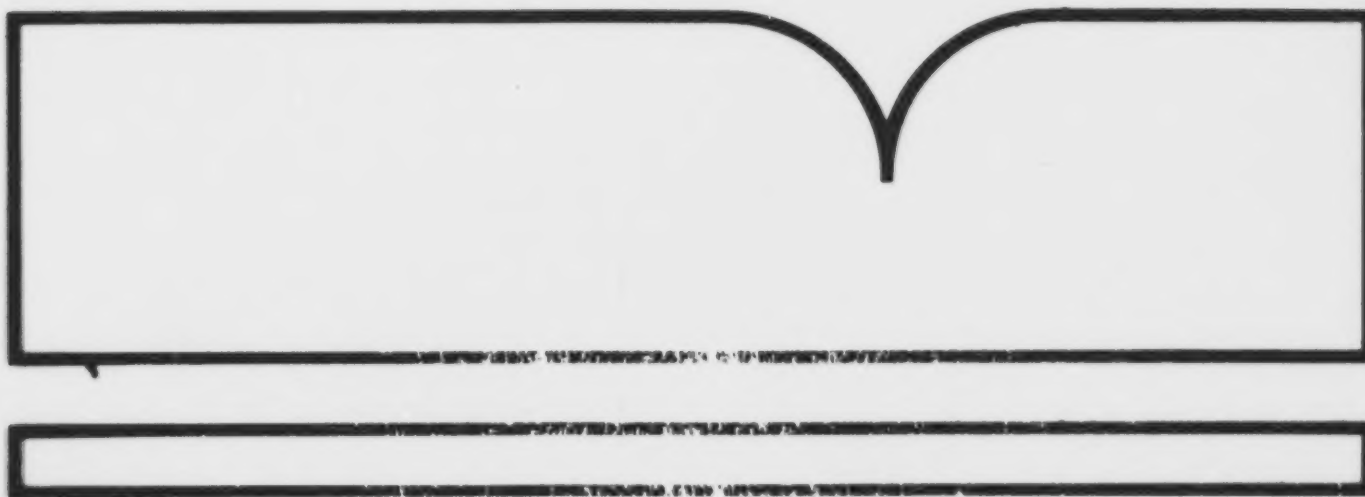
Regulations and Non-Regulatory Revisions to
State Implementation Plan: New Hampshire

Atlantic Environmental Associates, Inc.
Waltham, MA

Prepared for

Environmental Protection Agency
Research Triangle Park, NC

Oct 81



U.S. Department of Commerce
National Technical Information Service
NTIS

United States
Environmental Protection
Agency

Office of Air Quality
Planning and Standards
Research Triangle Park NC 27711

EPA-450/2-81-049
July 1981

PB83-127076

Air



Regulations and Non-Regulatory Revisions to State Implementation Plan: New Hampshire

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA 22161

**Regulations and Non-Regulatory
Revisions to State Implementation Plan:
New Hampshire**

By

**Atlantic Environmental Associates, Inc.
59 Vernon Street
Waltham, MA 02154**

Contract No. 68-02-3565

EPA Project Officer: Willis P. Beal

Prepared for

**U.S ENVIRONMENTAL PROTECTION AGENCY
Control Programs Development Division
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711**

July 1981

TECHNICAL REPORT DATA		
(Please read Instructions on the reverse before completing)		
1. REPORT NO. EPA-450/2-81-049	2.	3. RECIPIENT'S ACCESSION NO. PB83 127078
4. TITLE AND SUBTITLE Regulations and Non-Regulatory Revisions to State Implementation Plan: New Hampshire		5. REPORT DATE October, 1981
7. AUTHOR(S)		6. PERFORMING ORGANIZATION CODE
9. PERFORMING ORGANIZATION NAME AND ADDRESS Atlantic Environmental Associates, Inc. 59 Vernon Street Waltham, MA 02154		8. PERFORMING ORGANIZATION REPORT NO.
12. SPONSORING AGENCY NAME AND ADDRESS Control Programs Development Division Office of Air Quality Planning and Standards Research Triangle Park, NC 27711		10. PROGRAM ELEMENT NO.
		11. CONTRACT/GRANT NO. 68-02-3565
		13. TYPE OF REPORT AND PERIOD COVERED
		14. SPONSORING AGENCY CODE
15. SUPPLEMENTARY NOTES EPA Project Officer: Willis P. Beal		
16. ABSTRACT This document has been produced in compliance with Section 110(h) of the Clean Air Act, as amended in 1977, which mandates periodic publication of State Implementation Plan (SIP) requirements. The first section of the document comprises the Federally approved SIP regulations. It consists of the EPA-approved State and/or local air pollution control regulations cited by reference in the <u>Federal Register</u>; regulations promulgated as of August 1, 1981 have been included in this document. The present compilation constitutes an update of a previous documentation of regulations as of July 1, 1979. State and/or local air quality regulations which have not been Federally approved as of August 1, 1981, are not included. However, any omissions of regulations from this document in no way affects the ability of the respective Federal, State, or local agencies to enforce such regulations. A summary sheet of the regulatory revisions is provided to give a quick historical assessment of the changes. The second part of the document contains the text of non-regulatory SIP revisions approved by EPA up to August 1, 1981, excluding notices or certifications of public hearings and technical support data. A complete tabulation of these revisions is also provided.		
17. KEY WORDS AND DOCUMENT ANALYSIS		
a. DESCRIPTORS Air Pollution State Regulations State Implementation Plans	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
18. DISTRIBUTION STATEMENT Release Unlimited	19. SECURITY CLASS (This Report) Unclassified	21. NO. OF PAGES 117
	20. SECURITY CLASS (This page) Unclassified	22. PRICE

This report has been reviewed by the Control Programs Development Division of the Office of Air Quality Planning and Standards, EPA, and approved for publication. Mention of trade names or commercial products is not intended to constitute endorsement or recommendation for use. Copies of the entire document are available for inspection and copying at EPA Headquarters (401 M Street SW, Washington, DC 20460), EPA's Office of Air Quality Planning and Standards (Room 826, 411 West Chapel Hill Street, Durham, NC 27701), and the appropriate EPA Regional Offices. Documents containing only the regulatory portions of each State Implementation Plan may be ordered for a nominal fee from the National Technical Information Services, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161.

PREFACE

This document has been produced in compliance with Section 110(h) of the Clean Air Act, as amended in 1977, which mandates periodic publication of State Implementation Plan (SIP) requirements. The first section of the document comprises the Federally approved SIP regulations. It consists of the EPA approved State and/or local air pollution control regulations cited by reference in the Federal Register; all regulations Federally promulgated as of August 1, 1981 have been included.

The present compilation constitutes an update of a previous documentation of regulations as of July 1, 1979.* State and/or local air quality regulations which have not been Federally approved as of August 1, 1981 are not included. However, any omissions of regulations from this document in no way affects the ability of the respective Federal, State or local agencies to enforce such regulations.

This document is not intended to provide a tool for determining the enforceability of any given regulation. Rather, it is intended to provide a comprehensive compilation of those regulations which are incorporated by reference into Title 40, Part 52, of the Code of Federal Regulations (CFR). The exclusion of a Federally approved regulation from this document does not diminish the enforceability of the regulation. Similarly, the inclusion of a given regulation in this document does not, in itself, render the regulation enforceable by either the State or EPA.

The regulations have been organized in this document according to the official State/local agency format. However, since State air quality regulations vary widely in their organization, content, and language, a standardized subject index has been added. The index listings consist of both pollutant and activity oriented categories to facilitate usage. For example, regulations which apply to copper smelters may be found under sulfur compounds (50.2), particulate matter process weight (50.1.1), or copper smelters (51.15). Federal regulations pertaining to a given State are not included herein but can be found under Title 40 Code of Federal Regulations, Part 52.

Additionally, a summary sheet of the regulatory revisions is included to provide a quick historical assessment of the changes. These summary sheets contain the date of submittal to EPA of each revision and the Federal Register publication date on which the revision was approved by EPA. A brief description of the regulation which was submitted is also included.

In accordance with the Act, the second part of the document contains non-regulatory SIP revisions approved by EPA up to August 1, 1981. All approved non-regulatory revisions listed under Identification of Plan in the CFR are included except notices or certifications of public hearings, and technical support data. Non-regulatory submittals which have only received EPA approval on selected elements are included in their entirety with an accompanying indication of the status of Federal actions on the non-approved elements. The non-regulatory revisions have been organized in this document

* Regulations and Non-Regulatory Revisions to State Implementation Plan: New Hampshire, EPA-450/2-80-036, prepared under Contract 68-02-3388, July 31, 1980.

according to the date of publication of EPA approval in the Federal Register. For historical completeness, a complete tabulation of these revisions is provided at the beginning of this second section.

SUMMARY OF
EPA-APPROVED REGULATORY REVISIONS TO STATE OF NEW HAMPSHIRE SIP
BETWEEN JULY 1, 1979 AND JULY 31, 1981

Publication of Approval	Submittal Date	Page	Document Description
04/11/80	05/29/79	45FR24876	Regulations 22 and 16.
04/11/80	11/06/79	45FR24876	Revision to Regulation 16.
09/22/80	07/08/80	45FR62815	Regulations that assure reasonable further progress and compliance by owners of proposed new sources with federal and state regulations. Governor. Regulation 16, Attachment #2 revised; Attachment #1 not approved.
07/15/81	04/15/80	46FR36699	Concerning attainment and maintenance of NAAQS for lead.

TABLE OF CONTENTS

STATE REGULATIONS

<u>Revised Standard Subject Index</u>	<u>Regulation Number</u>	<u>Title</u>	<u>Page</u>
(51.13)	1 revised	Prohibition of Open Burning	1
(51.13)	2	Terminal Dates on Open Burning	6
(4.7)	3	Ambient Air Quality Standards - Fluorides	6
(51.5)	4 revised	Control of Visible and Particu- late Emissions from Fuel Burning Equipment	8
(51.6)	5	Prevention, Abatement and Control of Sulfur Emission from Stationary Combustion Equipment	12
(51.9)	6 revised	Prevention, Abatement and Control of Air Contaminants from Incine- rators	16
(51.20)	7 revised	Prevention, Abatement and Con- trol of Air Contaminants from Waste Burners	24
(51.8)	8 revised	Emissions from Asphalt Plants	26
(12.0)	9	Prevention, Abatement and Con- trol of Emissions from Diesel Engines and Motor Vehicles	29
(51.4)	10 revised	Prevention, Abatement and Con- trol of Air Contaminants from Ferrous Foundries	32
(4.1 - 4.6)	11	Particulate Matter, Sulfur Dioxide, Nitrogen Dioxide, Hydrocarbons, Carbon Monoxide Ozone and Lead	36

TABLE OF CONTENTS (Cont.)

<u>Revised Standard Subject Index</u>	<u>Regulation Number</u>	<u>Title</u>	<u>Page</u>
(51.13)	12	Prevention, Abatement and Control of Contaminants from the Burning of Tires and Tubes	41
(51.3)	13	Prevention, Abatement and Control of Air Contaminants from the Sand and Gravel Industry and the Cement, Ready Mix Concrete and Cement Block Industry	42
(51.11) (51.21)	14	Prevention, Abatement and Control of Air Contaminants from Non-Ferrous Foundries, Smelters and Investment Casting Industries	45
(51.14)	15	Prevention, Abatement and Control of Air Contaminants from the Pulp and Paper Industry	52
(3.0)	16 revised	Requirement for Statewide Permit System Regulating the Operation of New and Existing Sources of Air Pollution and of Modifications of Existing Sources of Air Pollution	56
(51.21)	17	Prevention, Abatement and Control of Air Contaminants from Process, Manufacturing, Service and Miscellaneous Industries	74
(13.0)	18	Requirements for Record Keeping at Facilities which Discharge Air Contaminants	82
(8.0)	19	Required Action: Emergency Episode Procedure	85
(50.4)	22	Prevention, Abatement, and Control of Volatile Organic Compound Emissions	89

REVISED STANDARD SUBJECT INDEX

- 1.0 DEFINITIONS
- 2.0 GENERAL PROVISIONS AND ADMINISTRATIVE PROCEDURES
- 3.0 REGISTRATION CERTIFICATES, OPERATING PERMITS AND APPLICATIONS
- 4.0 AIR QUALITY STANDARDS (PRIMARY AND SECONDARY)
 - 4.1 PARTICULATES
 - 4.2 SULFUR DIOXIDE
 - 4.3 NITRIC OXIDES
 - 4.4 HYDROCARBONS
 - 4.5 CARBON MONOXIDE
 - 4.6 OXIDANTS
 - 4.7 OTHERS
- 5.0 VARIANCES
- 6.0 COMPLIANCE SCHEDULES
- 7.0 EQUIPMENT MALFUNCTION AND MAINTENANCE
- 8.0 EMERGENCY EPISODES
- 9.0 AIR QUALITY SURVEILLANCE AND SOURCE TESTING
- 10.0 NEW SOURCE PERFORMANCE STANDARDS
- 11.0 NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS
- 12.0 MOTOR VEHICLE EMISSIONS AND CONTROLS
- 13.0 RECORD KEEPING AND REPORTING
- 14.0 PUBLIC AVAILABILITY OF DATA
- 15.0 LEGAL AUTHORITY AND ENFORCEMENT
- 16.0 HEARINGS, COMPLAINTS, AND INVESTIGATIONS
- 17.0 PREVENTION OF SIGNIFICANT DETERIORATION
- 18.0 AIR QUALITY MAINTENANCE AREA
- 19.0 EMISSION OFFSET POLICY
- 20.0 MAJOR STATIONARY SOURCES
- 21.0 - 49.0
RESERVED FOR FUTURE EXPANSION OF COMMON INDEX
- 50.0 POLLUTANT - SPECIFIC REGULATIONS
 - 50.1 PARTICULATES

- 50.1.1 PROCESS WEIGHT
- 50.1.2 VISIBLE EMISSIONS
- 50.1.3 GENERAL
- 50.2 SULFUR COMPOUNDS
- 50.3 NITRIC OXIDES
- 50.4 VOLATILE ORGANIC COMPOUNDS
- 50.5 CARBON MONOXIDE
- 50.6 ODOROUS POLLUTANTS
- 50.7 OTHERS (Pb, Hg, etc.)
- 51.0 SOURCE CATEGORY SPECIFIC REGULATIONS
 - 51.1 AGRICULTURAL PROCESSES (includes Grain Handling, Orchard Heaters, Rice and Soybean Facilities, Related Topics)
 - 51.2 COAL OPERATIONS (includes Cleaning, Preparation, Coal Refuse Disposal Areas, Coke Ovens, Charcoal Kilns, Related Topics)
 - 51.3 CONSTRUCTION (includes Cement Plants, Materials Handling, Topics Related to Construction Industry)
 - 51.4 FERROUS FOUNDRIES (includes Blast Furnaces, Related Topics)
 - 51.5 FUEL BURNING EQUIPMENT (coal, natural gas, oil) - Particulates (includes Fuel Content and Other Related Topics)
 - 51.6 FUEL BURNING EQUIPMENT (coal, natural gas, oil) - SO₂ (includes Fuel Content and Other Related Topics)
 - 51.7 FUEL BURNING EQUIPMENT (oil, natural gas, coal) - NO₂ (includes Fuel Content and Other Related Topics)
 - 51.8 HOT MIX ASPHALT PLANTS
 - 51.9 INCINERATION
 - 51.10 NITRIC ACID PLANTS
 - 51.11 NON-FERROUS SMELTERS (Zn, Cu, etc.) - Sulfur Dioxide
 - 51.12 NUCLEAR ENERGY FACILITIES (includes Related Topic)
 - 51.13 OPEN BURNING (includes Forest Management, Forest Fire, Fire Fighting Practice, Agricultural Burning and Related Topics)
 - 51.14 PAPER PULP; WOOD PULP AND KRAFT MILLS (includes Related Topics)
 - 51.15 PETROLEUM REFINERIES
 - 51.16 PETROLEUM STORAGE (includes Loading, Unloading, Handling and Related Topics)
 - 51.17 SECONDARY METAL OPERATIONS (includes Aluminum, Steel and Related Topics)
 - 51.18 SULFURIC ACID PLANTS

- 51.19 SULFURIC RECOVERY OPERATIONS
- 51.20 WOOD WASTE BURNERS
- 51.21 MISCELLANEOUS TOPICS
- 51.22 COATING OPERATIONS (Can, Coil, Paper, Fabric, Vinyl, Metal,
Wire, Surface Coating)
- 51.23 CUTBACK ASPHALT
- 51.24 SOLVENT METAL CLEANING

PROHIBITION OF OPEN BURNING, Revision 1

I. Purpose

This regulation is adopted for the purpose of preventing, abating, and controlling air pollution caused by air contaminants discharged into the air by open burning of combustibles.

II. Definitions

For the purpose of this subtitle, the following words and phrases have these meanings:

A. Combustion Products: Particulate and gaseous contaminants created by the burning of any kind of material.

B. Open Burning: The burning of any type of combustible material in the open, not in any enclosure, where the products of combustion are emitted directly into the atmosphere without passing through a stack or chimney.

C. Refuse (garbage, rubbish and trade wastes):

1. Garbage: Waste resulting from distribution, preparation and serving of food.

2. Rubbish: Solids or liquids not considered to be highly flammable or explosive, such as, but not limited to, paper, rags, ashes, leaves, tree branches, yard trimmings, furniture, tin cans, glass, crockery, demolition wastes, junk automobiles, tires, automotive parts, paints, oils, and other similar materials.

3. Trade Waste: Combustible solid or liquid material resulting from construction, building operations, or the prosecution of any business, trade or industry, such as, but not limited to, plastic, rubber, leather, chemicals, cartons, paints, greases, oils, other petroleum products, sawdust, dead animals (including fish and fowl), and other forms of solid or liquid waste materials.

D. Stack or Chimney: Any flue, conduit, or duct arranged to conduct an effluent to the open air.

E. Commission: State Air Pollution Control Commission.

F. Agency: State Air Pollution Control Agency.

G. Brush: Limbs, treetops, saplings not over 5" in diameter.

III. Open Burning Prohibited

No person, firm, corporation, association, municipal or state agency shall ignite, cause to be ignited, permit to be ignited, or suffer, allow, or maintain the burning of refuse except in conformity with the provisions of Section IV.

IV. Permissible Open Burning

When not prohibited by local ordinances or officials having jurisdiction, such as state or federal fire wardens or other fire prevention officials, the following types of burning are permissible, provided no nuisance is created.

- A. Campfires, outdoor grills, and fireplaces for recreation or preparing of food.
- B. On-premises burning for the purpose of frost prevention, agricultural and forestry improvement.
- C. Backyard burning of combustible domestic (household) rubbish where no public disposal service is available. This provision applies only to on-premises burning of combustible materials in a backyard waste burner having a capacity of seven (7) cubic feet or less and serving a building containing four (4) or less dwelling units.
- D. Residential burning of brush and tree cuttings not over five (5) inches in diameter on an occasional basis by an individual land or homeowner from material generated by the owner.
- E. Burning of solid or liquid fuels or structures for the purpose of bona fide instruction and training of municipal, volunteer and industrial firefighters in methods of fighting fires when conducted under the direct control and supervision of qualified instructors. Permission must be obtained in advance from the State District Fire Chief or New Hampshire Forest Fire Service.

In addition to any other permits that may be required, written permission in advance must also be obtained from the Agency, for the following types of open burning:

- F. Commercial burning of brush, slash, tree cuttings, not over five (5) inches in diameter where no other suitable method such as chipping can be utilized. This includes, but is not limited to, land clearing for developments, right of ways, roads, etc.
- G. Fires in conjunction with holiday and festive celebrations and other special occasions.
- H. Burning of combustible construction material resulting from the demolition of buildings, originating from within the state, providing such burning is done in a specified area approved by the Agency, and state and local fire officials.
- I. Towns and cities may operate a site for the burning of clean combustible material from the demolition of buildings, which originates from within the state, and brush five (5) inches in diameter, or less, provided such burning is done in an area approved by the Agency and state and local fire officials.

- J. Open burning in remote areas, of highly explosive or other dangerous materials for which there is no other feasible method of disposal or for nonrecurring unusual circumstances.

V. Salvaging Operations

No business, trade or industry engaged in whole or in part in salvaging or reclaiming any product or material, such as, but not limited to, reprocessing of used motor oils, metals, chemicals, shipping containers, or drums, and specifically including automobiles, automobile parts and junkyards, shall burn in the open air after July 1, 1968. A suitable incinerator or other means of compliance, approved by the Agency, shall be employed.

VI. With the exception of salvage operation as described in Section V, town and city solid waste disposal areas presently in use shall not be subject to the provisions of this regulation until July 1, 1971. Open burning shall not be permitted at any new waste disposal site after July 1, 1968.

IV. Permissible Open Burning

When not prohibited by local ordinances or officials having jurisdiction, such as state or federal fire wardens or other fire prevention officials, the following types of burning are permissible, provided no nuisance is created.

- A. Campfires, outdoor grills, and fireplaces for recreation or preparation of food.
- B. On-premises burning for the purpose of frost prevention, agricultural and forestry improvement.
- C. Backyard burning of combustible domestic (household) rubbish where no public disposal service is available. This provision applies only to on-premises burning of combustible materials in a backyard waste burner having a capacity of seven (7) cubic feet or less, and serving a building containing four (4) or less dwelling units.
- D. Residential burning of brush and tree cuttings not over five (5) inches in diameter on an occasional basis by an individual land or homeowner from material generated by the owner.
- E. Burning of solid or liquid fuels or structures for the purpose of bona fide instruction and training of municipal, volunteer and industrial firefighters in methods of fighting fires when conducted under the direct control and supervision of qualified instructors. Permission must be obtained in advance from the State District Fire Chief or New Hampshire Forest Fire Service.

In addition to any other permits that may be required, written permission in advance must also be obtained from the Agency, for the following types of open burning:

- F. Commercial burning of brush, slash, tree cuttings, not over five (5) inches in diameter where no other suitable method such as chipping can be utilized. This includes, but is not limited to, land clearing for developments, right of ways, roads, etc.
- G. Fires in conjunction with holiday and festive celebrations and other special occasions.
- H. Burning of combustible construction material resulting from the demolition of buildings, originating from within the state, providing such burning is done in a specified area approved by the Agency, and state and local fire officials.
- I. Towns and cities may operate a site for the burning of clean combustible material from the demolition of buildings, which originates

from within the state, and brush five (5) inches in diameter, or less, provided such burning is done in an area approved by the Agency and state and local fire officials.

- J. Open burning in remote areas, of highly explosive or other dangerous materials for which there is no other feasible method of disposal, or for nonrecurring unusual circumstances.

V. Salvaging Operations

No business, trade or industry engaged in whole or in part in salvaging or reclaiming any product or material, such as, but not limited to, reprocessing of used motor oils, metals, chemicals, shipping containers, or drums, and specifically including automobiles, automobile parts and junkyards, shall burn in the open air after July 1, 1968. A suitable incinerator or other means of compliance, approved by the Agency, shall be employed.

VI. With the exception of salvage operation as described in Section V, town and city solid waste disposal areas presently in use shall not be subject to the provisions of this regulation until July 1, 1971. Open burning shall not be permitted at any new waste disposal site after July 1, 1968.

Regulation No. 2

TERMINAL DATES ON OPEN BURNING

I. Abolish Section VI, page 3 of Regulation 1 and in place thereof the following shall apply.

II. With the exception of salvage operations as described in Section V, Regulation 1, town, city, county, and State solid waste disposal areas presently in use shall adhere to the following schedule for discontinuing open burning waste disposal sites:

Towns or cities of 7500 or greater population	July 1, 1972
Towns or cities of less than 7500 but more than 5000	July 1, 1973
Towns or cities of less than 5000 but more than 2500	July 1, 1974
Towns of less than 2500	July 1, 1975

The population for determining the above shall be based on the 1970 census figures.

III. Open burning shall not be permitted at any new waste disposal site approved and established after the effective date of this regulation (April 5, 1969).

Regulation No. 3

AMBIENT AIR QUALITY STANDARDS - FLUORIDES

I. Purpose

This regulation is adopted for the purpose of preventing, abating, and controlling any pollution in the ambient atmosphere which might be caused by discharges into the outdoor air of fluorides, either as fluorine, hydrogen, fluoride, or compounds of fluorides, which might be released from any process, industrial plant, or any other source.

II. Definitions

For the purpose of this subtitle the following words or phrases have these meanings:

A. Agency: State of New Hampshire Air Pollution Control Agency.

B. Commission: State of New Hampshire Air Pollution Control Commission.

C. Person: Any individual, partnership, firm or co-partnership, association, syndicated company, trust, corporation, department, bureau, agency, private or municipal corporation, or any other entity recognized by law as the subject of rights and duties.

D. Emission: A release into the outdoor atmosphere of air contaminants.

E. Air Contaminants: Soot, cinders, ashes, dust, fume, gas, mist (other than water), odor, toxic or radioactive material, particulate matter, or any combination thereof.

F. Forage: Forage, for the purpose of this regulation, shall mean any vegetable material that might be consumed during the process of grazing, by livestock such as cattle, sheep, horses, etc., and any grasses or other vegetation which might be consumed by deer, moose, or any other wildlife as a major part of their diet.

III. Directive

The degree of air purity required may depend on the effect on any or all of the following receptors: Man, animals, vegetation, and property. This is especially true with such pollutants as fluorides, which not only damage vegetation but also may build up in forage crops, concentrations toxic to grazing ruminants and livestock. Accordingly, the following ambient air quality standards for fluorine, fluoride, and/or fluoride compounds is established.

A. Total Fluorides (parts of fluoride per million parts of forage) dry weight basis (as inorganic fluoride compounds) in or on forage for consumption by grazing ruminants and livestock based on samples taken once each month:

1. Average concentrations over growing season (not to exceed six consecutive months) - To be less than 40 parts per million.
2. Average concentrations over two consecutive months -
To be less than 60 parts per million.
3. Average concentrations for any month -
To be less than 80 parts per million.

B. Gaseous Fluorides (parts of hydrogen fluoride per billion parts of air) in air and at plant property line or where a natural barrier acceptable to the Agency exists, calculated on the basis of volume at 760 mm. of mercury and at 25°C.

1. 12-hour average to be less than 4.5 parts per billion.
2. 24-hour average to be less than 3.5 parts per billion.
3. 1-week average to be less than 2.0 parts per billion.
4. 1-month average to be less than 1.0 parts per billion.

IV. Analysis

Methods of analysis for fluorine, fluorides and/or compounds of fluorides in forage or the ambient atmosphere shall be by any generally accepted standard scientific method or such other method as may be determined by the Agency.

Regulation No. 4
Revised

CONTROL OF VISIBLE AND PARTICULATE EMISSIONS
FROM FUEL BURNING EQUIPMENT

I. Purpose

This regulation is adopted for the purpose of preventing, abating, and controlling visible emissions and/or emissions of particulate matter from fuel burning equipment into the atmosphere.†

II. Definitions

For the purpose of this subtitle the following words or phrases have these meanings:

- A. Agency: State of New Hampshire Air Pollution Control Agency.
- B. BTU: British Thermal Unit. The quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit at or near its point of maximum density.
- C. Commission: State of New Hampshire Air Pollution Control Commission.
- D. Emission: A release into the outdoor atmosphere of air contaminants.
- E. Fuel: Any form of combustible matter -- solid, liquid, vapor, or gas, excluding refuse.
- F. Fuel burning or combustion equipment or device: Any furnace or boiler used for the burning of fuel or for the emission of products of combustion, or used in connection with any process which generates heat and may emit products of combustion.
- G. Opacity: The degree of optical density of any translucent medium; the common logarithm of the ratio of the initial intensity of light to the intensity of transmitted or reflected light.
- H. Particulate matter: Any material, except uncombined water, which is or has been suspended in air or other gases and which exists in a finely divided form as a liquid or solid at standard conditions.
- I. Person: Any individual, partnership, firm or co-partnership, association, syndicate, company, trust, corporation, department, bureau, agency, private or municipal corporation or any other entity recognized by law as the subject of rights and duties.
- J. Ringelmann Smoke Chart: Chart published and described in the U.S. Department of the Interior, Bureau of Mines, Information Bulletin 8333, and on which are illustrated graduated shades of grey to black for use in estimating the obscuring capacity of particulate matter.

† EPA-approved revision to plan exempts steam locomotives and engines, specifically the Cog Railway and Clark's Trading Post Railroad, from this regulation. Revision as submitted on 2/28/73 and approved by EPA on 8/12/74.

K. Smoke: Small gas borne particles resulting from incomplete combustion, consisting predominantly, but not exclusively, of carbon ash and other combustible materials.

L. Stack: Any dust passage, chimney, or flue for carrying combusted gases or products to the atmosphere.

M. MSA Smokescope: An instrument manufactured by the Mine Safety Appliances Co. for determining density of smoke in stack effluence by comparison with reference film disc showing equivalents of Numbers 2 and 3 of the Ringelmann Chart.

III. Visible Emission Control and Prohibition

1. Existing

A. Visible emissions from existing fuel burning equipment. No person shall cause, suffer, allow, or permit emissions from any existing fuel burning equipment (i.e., equipment installed prior to the effective date of this regulation), which are darker in shade or appearance than that designated as No. 2 on the Ringelmann Smoke Chart; or of such opacity as to obscure an observer's view to a degree greater than does smoke designated as No. 2 on the Ringelmann Smoke Chart.

B. Visible emissions from new fuel burning equipment. No person shall cause, suffer, allow, or permit emissions from new fuel burning equipment (i.e., equipment installed on or after the effective date of this regulation), which are darker in shade or appearance than that designated as No. 1 on the Ringelmann Smoke Chart; or of such opacity as to obscure an observer's view to a degree greater than does smoke designated as No. 1 on the Ringelmann Smoke Chart.

C. Major repairs to existing equipment. When it becomes necessary to replace fuel burning equipment, it will be considered that the combustion equipment is new and will be required to operate within the limits imposed in Paragraph III.B. above.

D. Exceptions. The provisions of subsections III.A. and III.B. shall not apply to emissions during the building of a new fire, cleaning of fires, or soot blowing, the shade or appearance of which may exceed No. 2 on the Ringelmann Smoke Chart for a period or periods aggregating no more than six minutes in any 60 minutes. Those installations equipped with automatic soot blowers will be permitted to exceed No. 2 on the Ringelmann Smoke Chart for a period not to exceed 60 minutes in any 8-hour period.

2. For new steam generators over 250 million BTU/hr. heat input, visible emissions shall not exceed 20% opacity except for 2 minutes in any one hour emissions may be as great as 40% opacity.

IV. Particulate Matter Emissions -- Control and Prohibition

A. Particulate matter from fuel burning equipment. No person shall cause, suffer, allow, or permit particulate matter resulting from the combustion of fuel to be emitted from any stack or chimney into the atmosphere in excess of the rates set forth in the following table:

Heat Input in Million British Thermal Units Per Hour	Maximum Allowable Emissions of Particulate Matter in Pounds Per Million British Thermal Units	
	Existing Fuel Burning Equipment	New Fuel Burning Equipment
Up to and including 10	0.60	0.60
50	0.46	0.40
100	0.40	0.35
250	-	.10
500	0.31	.10
1000	0.28	.10
2500	0.24	.10
5000	0.22	.10
7500	0.20	.10
10,000 and above	0.19	.10

1. When two or more fuel burning units are connected to a single stack, the combined heat input of all units connected to the stack shall be used to determine the allowable emission from the stack.

2. When a single unit is connected to two or more stacks, the allowable emission shall not exceed that allowable for the same unit connected to a single stack.

V. Testing

The Agency may require any person owning or operating the combustion unit to conduct or have conducted testing to determine compliance with this regulation. The Agency may, at its option, witness or conduct such tests. Such testing will be done at a reasonable time and all data obtained will be provided to both parties.

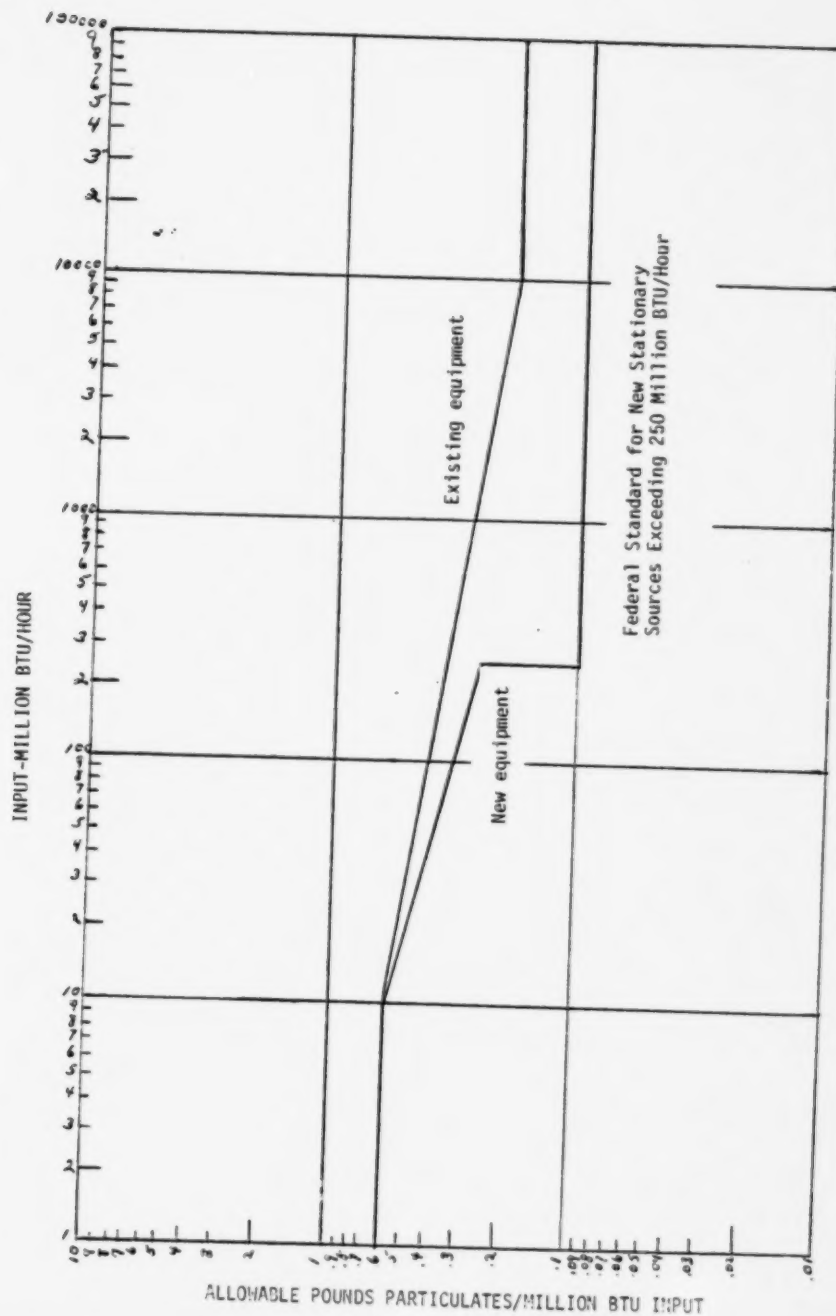
A. Testing to determine the quantity of emission shall be undertaken by methods of measurement accepted by the Environmental Protection Agency or the New Hampshire Air Pollution Control Agency, and at a point or points such as are representative of the actual emission into the atmosphere.

B. When the Agency conducts or has conducted such tests, the person owning or operating the combustion unit shall provide such sampling ports as might be required, power and water sources and safety equipment such as scaffolding, railing, ladders, etc., to comply with generally accepted good safety practices.

VI. Malfunction and Breakdown

In the event of malfunction or breakdown of any combustion equipment or component part of the air pollution control equipment, emissions exceeding those specified by this regulation may be permitted by the Agency for a period not to exceed 48 hours, if the Agency is notified within eight hours of the malfunction or breakdown. The Commission may upon request of the owner of the combustion equipment or his authorized representative or at the request of the Director of the Agency grant an extension of time or temporary variance for a period longer than 48 hours.

Regulation No. 4 Revised II



Fuel burning equipment whose heat input value falls between table values may obtain maximum allowable emission from a logarithmic plot of the table data.

VII. Existing installations unable to comply with Sections III.A. and/or IV.A. are required without further request, to submit to the Agency on or before December 1, 1970, a statement of intent as to how and when compliance will be achieved. However, all existing installations shall comply with Sections III.A. and IV.A. not later than December 1, 1971.

Regulation No. 5

PREVENTION, ABATEMENT, AND CONTROL OF SULFUR EMISSION FROM STATIONARY COMBUSTION EQUIPMENT

I. Purpose

This regulation is adopted for the purpose of preventing, abating, and controlling sulfur compounds emitted into the ambient air by controlling the sulfur content of fuels.

This regulation has the further purpose to provide a mechanism whereby fuel users may obtain a variance from the applicable regulation if they are unable to obtain the type of fuel necessary to comply with the sulfur content limitations set forth in this regulation.

II. Definitions

For the purpose of this subtitle the following words or phrases have these meanings:

- A. ASTM: American Society for Testing and Materials.
- B. Agency: State of New Hampshire Air Pollution Control Agency.
- C. BTU: British Thermal Unit. The quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit at or near its point of maximum density.
- D. Commission: State of New Hampshire Air Pollution Control Commission.
- E. Emission: A release into the outdoor atmosphere of air contaminants.
- F. Fuel: Any form of combustible matter--solid, liquid, vapor, or gas--excluding refuse.
- G. Person: Any individual, partnership, firm or co-partnership, association, syndicate, company, trust, corporation, department, bureau, agency, private or municipal corporation, or any other entity recognized by law as the subject of rights and duties.
- H. Standard conditions: A gas temperature of 68° Fahrenheit and a gas pressure of 14.7 pounds per square inch, absolute.
- I. Sulfur dioxide: A colorless gas at standard conditions which has the molecular formula SO₂.
- J. Sulfur compound: All organic or inorganic chemicals having an atom or atoms of sulfur in their chemical structure.

III. Prohibition

No person shall cause or permit the use, purchase for use, or the sale for use in stationary combustion installations within the State of New Hampshire for heat or power generation, fuels containing more sulfur than that specified below:

A. Liquid Fuel (Oil)

No. 2	by October 1, 1972	Not more than 0.4% Sulfur by weight
No. 4	by October 1, 1972	Not more than 1.0% Sulfur by weight
No. 5, 6 & crude	by October 1, 1973	Not more than 2.0% Sulfur by weight This provision to be reviewed by the New Hampshire Air Pollution Control Commission on or before May 1 of each year.
No. 5, 6 & crude New Hampshire portion of the Androscoggin Valley Air Quality Control Region		Not more than 2.2 sulfur by weight This provision to be reviewed by the New Hampshire Air Pollution Control Commission on or before May 1 of each year.

B. Gaseous Fuel (Natural Gas and Manufactured Gas)

By October 1, 1970, not more than 5 grains per 100 cubic feet calculated as Hydrogen sulfide (H_2S) at standard conditions.

C. Solid Fuel (Coal)

1. By October 1, 1970, existing installations shall not use a coal with a maximum sulfur content greater than 2.8 pounds sulfur per million BTU gross heat content, provided that the weighted average of all coal received during a trimonthly period for use in any existing stationary combustion installation to generate heat or power does not exceed 2.0 pounds sulfur per million BTU gross heat content.

2. Coal for any new stationary combustion installation to generate heat or power placed in operation on or after April 15, 1970, shall contain as a maximum not more than 1.5 pounds sulfur per million BTU gross heat content.

IV. Exemption

A. Any person may upon application to the Commission be granted a variance to operate fuel burning equipment using coal or residual fuel oil as a fuel which exceeds the sulfur content prescribed in paragraph III above, provided that the applicant shall prove to the satisfaction of the Agency that the equipment is operated in such a manner or is equipped with such control apparatus as to continuously prevent the emission of any sulfur compound or compounds in the amounts which would be permitted by the same combustion equipment without such control apparatus using fuel whose sulfur content was in compliance with that specified above at the appropriate time.

B. The provisions of this regulation shall not apply to the burning of sulfur, hydrogen sulfide, acid sludge, or other sulfur compounds in the manufacture of sulfur or sulfur compound.

V. Fuel Analysis

- A. All major companies and such other independent companies as may be designated by the Agency which supply fuel for use, or for sale for use, within the State, shall provide the Agency with a copy of a report of Laboratory Analysis for each different consignment of fuel; such analysis shall include viscosity, sulfur content, and BTU's per pound for fuel oil; ash, sulfur, content, and BTU per pound for solid fuels.
- B. The Agency may take, or cause to be taken, samples of any fuel in such quantity as may be necessary at any reasonable time and place for purposes of determining compliance with this regulation. Sampling, compositing, and analysis of fuel samples shall be carried out in accordance with the most recent ASTM methods or equivalent methods acceptable to the Agency.

VI. Granting of Emergency Variances Contingent Upon Fuel Shortage

- A. Application: Upon application by a stationary combustion source, fuel supplier or user, or upon its own initiative, the Commission may, exempt persons from the provisions of Paragraph III A,B,C of this regulation for periods not exceeding 90 days if it is shown to the Commission's satisfaction that there is an insufficient supply of conforming fuel, and that the use of fuel with the sulfur content proposed will not interfere with the attainment or maintenance of New Hampshire primary ambient air quality standards.
- B. Certification: Prior to the granting of any exemption hereunder, insufficiency of the supply of fuel must be confirmed in writing by the Governor and Council.
- C. Affidavit: Any applicant for exemption to a part of Paragraph III, A, B, and C shall submit a sworn affidavit stating that there is an insufficient supply of fuel for such person in such given region and setting forth in detail the reasons for such insufficiency and the attempts being made to obtain conforming fuel and that the insufficiency is the sole reason for the request.
- D. Where such exemption is granted, the U.S. Environmental Protection Agency shall be notified in writing with all documentation within five days.
- E. Special limitations contingent upon air quality:
 - 1. Special limitations promulgated pursuant to this section shall not apply to fossil fuel-fired steam generators which are subject to 40 CFR 60, subpart D, (Code of Federal Regulations - Standards of Performance for Fossil Fuel-Fired Generators).

2. In accordance with the provisions of VI A, C.2, the Commission may promulgate special limitations that permit the use, purchase for use or the sale for use of residual fuel oil with a sulfur content not to exceed 2.5% by weight or solid fuel with a sulfur content not to exceed 2.8 pounds per million BTU gross heat content for stationary combustion sources in areas where the Commission has determined that the use of such fuel in any area would not contribute to the contravention of such standards or significantly degrade air quality.
 - a. The Commission may require that such applicants show to their satisfaction that such standards shall not be violated by employment of acceptable diffusion analysis.
 - b. The Commission may further require conditions or special limitations including but not limited to the following:
 - (1) Maintenance of a continuous monitoring network for sulfur compounds (expressed as sulfur dioxide) surrounding the source, which network is acceptable to the Commission.
 - (2) Employment of a system for prompt switching to fuel with a sulfur content specified by the Commission when continuous monitoring indicates that state ambient air quality standards may, in the opinion of the Commission, otherwise be exceeded.
- F. No variance granted hereunder shall become effective until it has received approval from the U.S. Environmental Protection Agency.

NEW HAMPSHIRE AIR POLLUTION CONTROL COMMISSION

REGULATION NO. 6, REVISED

PREVENTION, ABATEMENT AND CONTROL OF AIR CONTAMINANTS FROM INCINERATORS

I. Purpose

This regulation is adopted for the purpose of preventing, abating, and controlling air pollution caused by air contaminants discharged into the atmosphere from incinerators.

II. Definitions

For the purpose of this subtitle the following words or phrases have these meanings:

- A. Air Contaminant: Soot, cinders, ashes, dust, fume, gas, mist (other than water), odor, toxic or radioactive material, particulate matter, or any combination thereof.
- B. Incinerator: An engineered apparatus capable of withstanding elevated temperatures and designed to efficiently reduce, by burning, solid, semi-solid, liquid or gaseous combustible waste at specified rates and from which the residues contain little or no combustible matter.
- C. Particulate Matter: Any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions.
- D. Day: A 24-hour period commencing at midnight and ending at 11:59 PM.
- E. Stack: Any duct, passage, chimney, or flue for carrying combustion gases or products of combustion to the atmosphere.
- F. Emission: The release into the outdoor atmosphere of air contaminants.
- G. Flue Gas: The products of combustion that leave the incinerator by way of a flue or stack.
- H. Fly Ash: Any solids carried in the gas stream being emitted from a flue or stack.
- I. Heat Release: The amount of heat liberated by the complete combustion of a given unit of specific material and expressed as calories/per second per cubic meter (British Thermal Units, per hour per cubic foot) of the inside volume of the furnace in which the combustion takes place.

- J. Heating Values: The calories (British Thermal Units) released by the combustion of a unit quantity of fuel or waste.
- K. Calorie (BTU): The quantity of heat required to raise the temperature of one gram of water one degree Celsius (one pound of water one degree Fahrenheit) at or near its point of maximum density.
- L. Commission: The State of New Hampshire Air Pollution Control Commission.
- M. Agency: State of New Hampshire Air Pollution Control Agency
- N. Standard Cubic Foot: One cubic foot of gas at 68 degrees Fahrenheit and a pressure of 29.92 of Hg.
- O. Standard Cubic Meter: One cubic meter of gas at 293 degrees K (68 degrees F) and a pressure of 101.3 kilopascals (29.92 in. of Hg.).
- P. Opacity: The degree to which emissions reduce the transmission of light and obscure the view of an object in the background.
- Q. Sewage Sludge Incinerator: Any combustion device used in the process of burning sewage sludge for the primary purpose of solids sterilization and to reduce the volume of waste by removing combustible matter, but does not include portable facilities or facilities used solely for burning scum or other floatable materials, recalcining lime, or regenerating active carbon.
- R. Standard Conditions: Temperature of 293 degrees K (68 degrees F) and a pressure of 101.3 kilopascals (29.92 in. of Hg.).

III. Classification of Wastes as defined by Incinerator Institute of America Standards, except Type 7.

Type 0

Trash, a mixture of highly combustible waste such as paper, cardboard cartons, wood boxes, and combustible floor sweepings, from commercial and industrial activities. The mixtures contain up to 10 percent by weight of plastic bags, coated paper, laminated paper, treated corrugated cardboard, oily rags, and plastic or rubber scraps. This type of waste contains 10 percent moisture, 5 percent incombustible solids, and has a heating value of 4718 calories per gram (8500 BTU's per pound) as fired.

Type 1

Rubbish, a mixture of combustible waste such as paper, cardboard cartons, wood scrap, foliage and combustible floor sweepings, from domestic, commercial and industrial activities. The mixture contains up to 20 percent by weight of restaurant or cafeteria waste but contains little or no treated papers, plastic or rubber waste. This type of waste contains 25 percent moisture, 10 percent incombustible solids, and has a heating value of 3608 calories per gram (6500 BTU's per pound) as fired.

Type 2

Refuse, consisting of an approximately even mixture of rubbish and garbage by weight. This type of waste is common to apartment and residential occupancy, consisting of up to 50 percent moisture, 7 percent incombustible solids, and has a heating value of 2386 calories per gram (4300 BTU's per pound) as fired.

Type 3

Garbage, consisting of animal and vegetable wastes from restaurants, cafeterias, hotels, hospitals, markets and like installations. This type of waste contains up to 70 percent moisture, 5 percent incombustible solids, and has a heating value of 1388 calories per gram (2500 BTU's per pound) as fired.

Type 4

Human and animal remains, consisting of carcasses, organs and solid organic wastes from hospitals, laboratories, abattoirs, animal pounds and similar sources, consisting of up to 85 percent moisture, percent incombustible solids, and having a heating value of 555 calories per gram (1000 BTU's per pound) as fired.

Type 5

By-product waste, gaseous, liquid, or semi-liquid, such as tar, paints, solvents, sludge, fumes, etc., from industrial operations. Calorie (BTU) values must be determined for the individual materials to be destroyed.

Type 6

Solid by-product waste, such as rubber, plastic, wood waste, etc., from industrial operation. Calorie (BTU) values must be determined for the individual materials to be destroyed.

Type 7

Municipal sewage sludge waste, residue generated from the processing of raw sludge from a treatment plant.

IV. Classification of Incinerators as defined by the Incinerator Institute of America standards

Class I

Portable, packaged, completely assembled, direct fed incinerators, having not over 0.142 cubic meters (5 cubic feet) storage capacity or 11.34 kilograms (25 pounds) per hour burning capacity and suitable for Type 2 waste.

Class IA

Portable, packaged or job assembled, direct fed incinerators, 0.142 to 0.426 cubic meters (5 to 15 cubic feet) primary chamber volume; or a burning rate of 11.34 kilograms (25 pounds) per hour up to, but not including, 34.02 kilograms (75 pounds) per hour of Type 3 waste.

Class II

Flue-fed, single chamber incinerators with more than 0.186 square meters (2 square feet) burning area, suitable for Type 2 waste. This type of incinerator is served by one vertical flue functioning both as a chute for charging waste and to carry the products of combustion to the atmosphere.

Class IIA

Chute-fed, multiple chamber incinerators with more than 0.186 square meters (2 square feet) burning area, suitable for Type 1 (non-industrial) or Type 2 waste. This type of incinerator is served by a vertical chute for charging wastes from two or more floors above the incinerator and separate flue for carrying the products of combustion to the atmosphere.

Class III

Direct fed incinerators with a burning rate of 46.40 kilograms (100 Pounds) per hour or over, suitable for Type 0, Type 1 or Type 2 waste.

Class IV

Direct fed incinerators with a burning rate of 34.02 kilograms (75 pounds) per hour or over, suitable for Type 3 waste.

Class V

Municipal incinerators suitable for Type 0, Type 1, Type 2 or Type 3 wastes or a combination of all four wastes and are rated in kilograms (tons) per hour or kilograms (tons) per 24 hours.

Class VI

Crematory and pathological incinerators suitable for Type 4 waste.

Class VII

Incinerators designed for specific by-product wastes, Type 5 or 6.

Class VIII

Municipal sewage sludge incinerator suitable for Type 7 waste.

V. Incinerator Construction Prohibited Without Prior Approval

The construction, reconstruction, installation, or substantial alteration of incinerators after the effective date of this regulation is prohibited unless detailed plans and specifications therefore have been submitted to, and approved by the Agency.

VI. Emission Standards for New Incinerators

Incinerators constructed, reconstructed, installed, or substantially altered after April 15, 1970, shall conform to the following emission standards:

- A. There shall not be discharged into the atmosphere from any incinerator any air contaminant for a period or periods aggregating more than three minutes in any one hour which exhibits 20% opacity or greater as determined with test methods or with opacity monitors approved by the Agency. Visual opacity shall be determined in accordance with the Code of Federal Regulations, 40 CFR 60, appendix A, Reference Method 9, amended.

- B. Incinerators of 90.72 kilograms (200 pounds) per hour capacity and less shall not emit more than 0.675 grams per dry standard cubic meter (0.3 grains of particulate matter per standard cubic foot) of dry flue gas, corrected to 12 percent carbon dioxide (without the contribution of carbon dioxide from auxiliary fuel).
- C. Incinerators of over 90.72 kilograms (200 pounds) per hour capacity but less than 1814.4 kilograms (4000 pounds) shall not emit more than 0.45 grams per dry standard cubic meter (0.2 grains of particulate matter standard cubic foot) of dry flue gas corrected to 12 percent carbon dioxide (without the contribution of carbon dioxide from auxiliary fuel).
- D. After April 30, 1974, new incinerators whose charging rate is 1814.4 kilograms (4000 Pounds) per hour or above shall not be operated in such a manner as to discharge or cause the discharge into the atmosphere of any gases which contain more than 0.18 grams per dry standard cubic meter (0.08 grains of particulate matter per dry standard cubic foot) corrected to 12 percent carbon dioxide (max. 2-hr. average).
- E. After April 20, 1974, new sewage sludge incinerators shall not be operated in such a manner as to discharge or cause the discharge into the atmosphere of any gases which:
 - 1. Contain particulate matter in excess of 0.65 g/Kg dry sludge input (1.30 lb/ton dry sludge input) determined by reference to the Code of Federal Regulations, 40 CFR 60, Subpart O.
 - 2. Exhibit 20% opacity or greater. Where the presence of uncombined water is the only reason for failure to meet the requirements of this part, such failure shall not be a violation of this part.

VII. Emission Standards for Existing Incinerators

Incinerators existing on the effective date of this regulation shall conform to the following standards:

- A. There shall not be discharged into the atmosphere from any existing incinerator any air contaminant for a period or periods aggregating more than three minutes in any one hour which exhibits 20% opacity or greater as determined with test methods or opacity monitors approved by the Agency. Visual opacity shall be determined in accordance with the Code of Federal Regulations, 40 CFR 60, Appendix A, Reference Method 9.
- B. Existing incinerators having a capacity of 90.72 kilograms

(200 pounds) or less per hour shall not emit more than 0.675 grams per dry standard cubic meter (0.3 grains of particulate matter per standard cubic foot) of dry flue gas corrected to 12 percent of carbon dioxide (without the contribution of carbon dioxide from auxiliary fuel).

- C. Existing incinerators of over 90.72 kilograms (200 pounds) per hour capacity shall not emit more than 0.45 grams per dry standard cubic meter (0.2 grains of particulate matter per standard cubic foot) of dry flue gas corrected to 12 percent carbon dioxide (without the contribution of carbon dioxide from auxiliary fuel).

VIII. Testing

The Agency may require any person owning or operating the equipment to conduct or have conducted testing to determine compliance with this regulation. The Agency may, at its option, witness or conduct such tests. Such testing will be done at a reasonable time and all data obtained will be provided to both parties.

A. Testing to determine the quantity of emission shall be undertaken by methods of measurement accepted by the Environmental Protection Agency and the Agency, and at a point or points such as to be representative of the actual emission into the atmosphere.

B. When the Agency conducts or has conducted such tests, the person owning or operating the equipment shall provide such sampling ports as might be required, power and water sources and safety equipment such as scaffolding, railing, ladders, etc., to comply with generally accepted good safety practices.

IX. Incinerator Manufacturer's Name Plate

The manufacturer's name plate shall be installed in a conspicuous place on the incinerator, giving model number, rated capacity, and the types of waste for which the unit is designed.

X. Posting of Instructions for Operation of Incinerators

Detailed instructions for the operation of each incinerator shall be posted in a conspicuous place near the unit.

XI. Trained and Competent Operator Required

The owner is responsible for having an operator, trained and competent in the operation of the incinerator, in charge of the facility.

XII. Malfunction and Breakdown

In the event of malfunction or breakdown of any incinerator or component part of the air pollution control equipment, emissions exceeding those specified by this regulation may be permitted by the Agency for a period not to exceed 24 hours, if the Agency is notified immediately of the malfunction or breakdown and the Agency has determined the cause of the malfunction was unforeseeable or unpreventable. The Agency may grant a further extension provided the source shall agree to a consent order establishing a repair schedule with a specified compliance date.

XIII. Nothing in this regulation shall be interpreted as prohibiting the Agency from approving the construction of any incinerator which will introduce:

- A. New methods which may improve upon combustion and reduce air pollution.
- B. New design and engineering features which may improve upon combustion and reduce air pollution.

Regulation No. 7 Revised

PREVENTION, ABATEMENT AND CONTROL
OF AIR CONTAMINANTS FROM WASTE BURNERS

I. Purpose

This regulation is adopted for the purpose of preventing, abating, and controlling air pollution caused by air contaminants discharged into the air from waste burners.

II. Definitions

For the purpose of this regulation the following words and phrases shall have these meanings:

- A. Agency: State of New Hampshire Air Pollution Control Agency.
- B. Air Contaminant: Soot, cinders, ashes, dust, fume, gas, mist (other than water), odor, toxic or radioactive material, particulate matter, or any combination thereof.
- C. Commission: State of New Hampshire Air Pollution Control Commission.
- D. Emission: The release into the outdoor atmosphere of air contaminants.
- E. M.S.A. Smokescope: Instrument manufactured by Mine Safety Appliances Co. for determining density of smoke in stack effluent by comparison to reference film disc showing equivalents of Numbers 2 and 3 on the Ringelmann Chart.
- F. Particulate Matter: Any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions.
- G. Ringelmann Chart: Chart published and described in the U.S. Department of the Interior, Bureau of Mines, Information Circular 8333 of 1967, and on which are illustrated graduated shades of grey to black for use in estimating the light obscuring capacity of smoke.
- H. Standard Cubic Foot: One cubic foot of gas at 68° Fahrenheit and 14.7 pounds per square inch absolute.
- I. Waste: For this regulation waste shall be limited to include only that portion of refuse defined as trade waste in Section II of Regulation I, and further limited to mean "combustible material resulting from the processing of wood and/or wood products."
- J. Waste Burner: Any article, machine, equipment, contrivance, or device, including, but not limited to, burners commonly known as teepees, wigwams, truncated cones and silos, which are not incinerators as defined in Regulation 6, used to dispose of combustible waste by burning.

III. Construction of Waste Burners

Construction, reconstruction, or substantial alteration of waste burners is prohibited after the effective date of this regulation, unless detailed plans and specifications have been submitted to, and approved by, the Agency. Waste burners may be used only for the purpose of burning wood waste.

IV. Emission Standards

Waste burners constructed, installed, reconstructed, or substantially altered after the effective date of this regulation shall conform to the following emission standards:

A. There shall not be discharged into the atmosphere from any waste burner any air contaminant for a period or periods aggregating more than three minutes in any hour which is as dark or darker in shade as that designated as No. 2 of the Ringelmann Chart and determined by use of an M.S.A. Smokescope, or of such opacity as to obscure an observer's view to a degree greater than does smoke designated as #2 on the Ringelmann Smoke Chart.

B. Particulate matter shall not be discharged into the atmosphere from any waste burner which exceeds 0.3 grains per standard cubic foot of dry flue gas corrected to 12 percent carbon dioxide (without the contribution of carbon dioxide from an auxiliary fuel).

V. Testing

The Agency may require any person owning or operating the equipment to conduct or have conducted testing to determine compliance with this regulation. The Agency may, at its option, witness or conduct such tests. Such testing will be done at a reasonable time and all data obtained will be provided to both parties.

A. Testing to determine the quantity of emission shall be undertaken by methods of measurement accepted by the National Air Pollution Control Administration or the Agency, and at a point or points such as to be representative of the actual emission into the atmosphere.

B. When the Agency conducts or has conducted such tests, the person owning or operating the equipment shall provide such sampling ports as might be required, power and water sources and safety equipment such as scaffolding, railing, ladders, etc., to comply with generally accepted good safety practices.

VI. Existing Waste Burners

Five years from the effective date of this regulation all waste burners shall meet the emission standards set forth in Section IV of this regulation.

VII. Exception

Backyard waste burners as excepted under the conditions specified in Section IV.G. of Regulation 1 are excepted from this regulation. Municipal waste burners are excepted from the provisions of this regulation provided that they comply with the provision established for incinerators as specified in Regulation 6, Section VII.

VIII. Manufacturer's Name Plate

The manufacturer's name plate shall be installed in a conspicuous place on the waste burner, giving model number and capacity rate.

IX. Posting of Instruction for Operation

Detailed instruction for the operation of each waste burner shall be posted in a conspicuous place near the facility.

X. Competent Operators

The owner is responsible for having an operator trained and competent in the operation of the facility in charge of the facility.

XI. Compliance Schedule

Owners/operators of existing waste burners as specified in Section VI must submit to the Agency prior to December 1, 1972, a compliance schedule delineating the progressive steps required to bring these waste burners into compliance with this regulation on or before April 15, 1975. Such progressive steps shall include, but are not limited to; date for submittal of engineering plans, proof of purchase of the required control equipment, date for installation and operation of the modified waste burner. Compliance schedules shall be subject to the approval of the Director.

Regulation No. 8 Revised

EMISSIONS FROM ASPHALT PLANTS

I. Purpose

This regulation is adopted for the purpose of preventing, abating, and controlling air pollution caused by air contaminants discharged into the air by the operation of hot mix asphalt plants.

II. Definitions

For the purpose of this subtitle the following words or phrases have these meanings:

- A. Agency: State Air Pollution Control Agency.
- B. Commission: State Air Pollution Control Commission.
- C. Air Contaminants: Soot, cinders, ashes, dust, fumes, gas, mist (other than water), odor, toxic or radioactive material, particulate matter, or any combination thereof.
- D. Emission: The release into the outdoor atmosphere of air contaminants.
- E. Plant: An asphaltic hot mix plant including all equipment utilized in the manufacture of asphaltic hot mix concrete: e.g., burners, dryers, elevators, screens, mixers, weighing equipment, bins, air pollution control equipment, etc.

F. Particulate matter: Any material except uncombined water, which is or has been suspended in air or other gases and exists in a finely divided form as a liquid or solid at standard conditions.

G. Ringelmann Chart: Chart published and described in the U. S. Department of the Interior, Bureau of Mines, Information Circular 8333 and on which are illustrated graduated shades of grey to black for use in estimating the obscuring capacity of particulate matter.

H. Person: Any individual, partnership, firm or co-partnership, association, syndicate, company, trust, corporation, department, bureau, agency, private or municipal corporation, or any other entity recognized by law as the subject of rights and duties.

I. Fugitive dust: Any and all particulate matter generated by the operation of an asphalt mix plant which, if not confined or collected, would be emitted directly to the air from points other than the stack outlet.

J. Opacity: The degree of optical density of any translucent medium; the common logarithm of the ratio of the initial intensity of light to the intensity of transmitted or reflected light.

III. Emission of Smoke Prohibited

A. No person shall cause, suffer, allow, or permit the emission of smoke into the open air from any fuel burning equipment operated in conjunction with an asphalt plant darker in shade or appearance than that designated as No. 1 on the Ringelmann Smoke Chart, or of such opacity as to obscure an observer's view to a degree greater than does smoke designated as #1 on the Ringelmann Smoke Chart.

B. Subsection III.A shall not apply to smoke emitted by plants existing prior to June 1, 1974 during the starting operation and a Ringelman No. 3 (60% equivalent opacity) or less shall be permitted for a period not to exceed three minutes per startup.

IV. Control of Particulate Emissions

A. No person shall cause, suffer, allow, or permit particulate emission from a plant into the open air in excess of the quantities listed in the following table:

<u>Aggregate Process Rate</u> Pounds per Hour	<u>Stack Emission Rate</u> Pounds per Hour
10,000	10
20,000	16
30,000	22
40,000	28
50,000	31
100,000	33
200,000	37
300,000	40
400,000	43
500,000 and above	47

For a process weight between any two consecutive process weights stated in this table, the emission limitation shall be determined by interpolation.

B. New or Modified Asphalt Plants

No person shall cause, suffer, allow or permit the operation of a new or modified asphalt plant in such a manner as to (a) emit particulate matter in excess of 90 milligrams per dry normal cubic meter (0.04 gr/dscf); (b) exhibit 20% capacity or greater. When the presence of uncombined water is the only reason for failure to meet the requirements of this paragraph, such failure shall not be a violation of this part.

C. When a plant is equipped with more than one stack the emission rate shall be based on the total emissions from all stacks.

D. No person shall cause, suffer, allow, or permit a plant to operate that is not equipped with a fugitive dust control system operated and maintained in such a manner as to prevent the emission of particulate matter from any point other than the stack outlet. Overflow chutes are excepted from this section.

E. The plant owner and/or operator shall control the dust from vehicular movement over access roads to, from, and within the plant premises by suitable means; e.g., paving, oiling, wetting, or other. Good operating practices shall be maintained at all times relative to stockpiling, screen changing, and general maintenance.

F. At such time as the Agency may request, the person owning or operating the plant shall submit all data on type, sizing, and quantity of the aggregates used, and hours of plant operation.

V. Testing

The Agency may require any person owning or operating the equipment to conduct or have conducted testing to determine compliance with this regulation. The Agency may, at its option, witness or conduct such tests. Such testing will be done at a reasonable time and all data obtained will be provided to both parties.

A. Testing to determine the quantity of emission shall be undertaken by methods of measurement accepted by the Environmental Protection Agency or the Agency, and at a point or points such as to be representative of the actual emission into the atmosphere.

B. When the Agency conducts or has conducted such tests, the person owning or operating the equipment shall provide such sampling ports as might be required, power and water sources and safety equipment such as scaffolding, railing, ladders, etc., to comply with generally accepted good safety practices.

VI. Notification

All persons owning or operating an asphalt hot mix plant shall notify the Agency of the name of the individual operating the plant, location of the plant, size, make, and type of air pollution control equipment on forms supplied by the Agency within 30 days of the effective date of this regulation.

When such plants are modified by changes in burner design, heating fuel, fan capacity, dryer design, air pollution control equipment or like changes which significantly affect the emission characteristics of the plants, the owner or operator shall then renotify the Agency of these changes within 30 days after placing such modification in operation.

When an existing plant is moved from one location to another, the plant owner or operator shall notify the Agency within 5 days of the site of the new location.

VII. Malfunctions and Breakdowns

In the event of any malfunction in equipment or the breakdown of any component part of the air pollution control equipment, emissions exceeding those specified may be permitted by the Agency for a period not to exceed 48 hours, if the Agency is notified within eight hours of the malfunction or breakdown. The Commission may upon request of the owner or operator of the plant or at the request of the Director of the Agency grant an extension of time or temporary variance for a period longer than 48 hours.

VIII. Effective Date

The effective date of this regulation shall be July 1, 1970.

Regulation No. 9

PREVENTION, ABATEMENT AND CONTROL OF EMISSIONS FROM DIESEL ENGINES AND MOTOR VEHICLES

I. This regulation is adopted for the purpose of preventing, abating and controlling emissions into the ambient air from diesel engines and motor vehicles.

II. Definitions

For the purpose of this regulation, the following words and phrases shall have these meanings:

- A. Agency: State of New Hampshire Air Pollution Control Agency.
- B. Commission: State of New Hampshire Air Pollution Control Commission.
- C. Crankcase: The three-dimensional space within an engine which is connected to the oil sump by internal passages through which gases and vapor can flow.
- D. Crankcase emission: Substances consisting of gases and/or vapors which have leaked past the piston rings and/or intake or exhaust valve mechanisms, and oil decomposition products which are emitted to the atmosphere through any opening in the crankcase.
- E. Diesel engine: Any engine using diesel oil as a fuel and having compression ignition.
- F. Emission: A release into the outdoor atmosphere of air contaminants.
- G. Exhaust emission: Substances emitted to the atmosphere from any opening downstream from the exhaust manifold of a motor vehicle engine.

H. Motor Vehicle: Gasoline powered vehicles with spark ignition engines, including motorcycles, but excluding snow, water and similar type of vehicle.

I. Person: Any individual, partnership, firm or co-partnership, association, syndicate, company, trust, corporation, department, bureau, agency, private or municipal corporation, or any other entity recognized by law as the subject of rights and duties.

III. Directive

A. Diesel Engines. This part shall apply to all diesel engines operated in this State.

1. No diesel engine manufactured on or after January 1, 1970, shall emit smoke which will reduce the transmission of light by more than 20 percent, average over a 15-second period. No diesel engine manufactured before January 1, 1970, shall emit smoke which will reduce the transmission of light by more than 30 percent, averaged over a 15-second period, and such engines shall conform to the requirements of those manufactured on or after January 1, 1970, by July 1, 1973. Individual smoke puffs will be permitted provided that they do not exceed 10 seconds duration and reduce the transmission of light by an average of more than 40 percent.

2. No diesel engine which provides motive power in a bus or truck shall be allowed to idle for more than five consecutive minutes when the bus or truck is not in motion except as provided below.

3. No person owning or operating a diesel engine may alter or remove any smoke control device or system (including the basic fuel system) which may limit or reduce the ability of that device or system to control smoke except as provided below.

B. Exceptions

1. When a diesel powered vehicle is forced to remain motionless because of traffic conditions over which the operator has no control, the provisions of section III.A.3 shall not apply.

2. The provisions of section III.A.2 shall not apply in an area where temperatures below -10°F. are predicted. When such idling is permitted by this exception, no nuisance shall be created.

3. The five-minute idling limitation of section III.A.2 may be exceeded when diesel engines are providing power takeoff, for refrigeration, life gate pumps or other auxiliary uses, or to supply heat or air conditioning necessary for passenger comfort in those vehicles intended for commercial passenger transportation.

4. Diesel engines undergoing maintenance will be exempt from the provisions of subsection III.A.1, 2, and 3, if necessary during such periods of maintenance but only when operated by a qualified mechanic.

C. Motor Vehicles. This section shall apply to all gasoline engine propelled vehicles operated in this State.

1. All motor vehicles manufactured since 1967 year model will comply with all federal laws pertaining to the installation of air pollution control devices.

2. No person shall operate a motor vehicle which emits visible smoke, gases, or fumes (except water vapor or steam) while standing or moving on the roads or highways of the State, except during initial startups and periods of warmups.

3. No person shall remove, alter, or otherwise render inoperative exhaust emission control, crankcases, ventilation, or any other air pollution control device which was installed as a requirement of federal and New Hampshire State law or regulation except as provided below.

4. No person shall operate a motor vehicle originally equipped with air pollution control devices as required by federal or State law or regulation unless such devices are in place and in operating condition.

5. No gasoline engine which provides motive power in a bus or truck shall be allowed to idle for more than five consecutive minutes when the bus or truck is not in motion except as provided below.

D. Exceptions

1. The requirements of section III.C.3, and 4 shall not apply to an alteration or modification to use a fuel other than gasoline where it has been shown that the emission from such modified or altered vehicle is at levels which comply with existing State or Federal standards for emissions from motor vehicles.

2. The provisions of sections III.C.2, 3, and 4 shall not apply to motor vehicles or motorcycles used only for racing on an established raceway, race course, or race track provided that no nuisance of either noise or odor is created.

3. The five-minute idling limitation of section III.C.5 may be exceeded when gasoline engines are providing power takeoff for refrigeration, lift gate pumps, or other auxiliary uses, or to supply heat or air conditioning necessary for passenger comfort in those vehicles intended for commercial passenger transportation.

IV. Testing

Testing to determine compliance with this regulation shall be in accordance with methods specified by the Environmental Protection Agency and/or the Agency including dynamometer procedure and opacity meter measurement. All such testing will be conducted only after the initial startup and warmup periods have been completed.

Regulation No. 10 Revised

PREVENTION, ABATEMENT, AND CONTROL
OF AIR CONTAMINANTS FROM FERROUS FOUNDRIES

I. Purpose

This regulation is adopted for the purpose of preventing, abating, and controlling air pollution caused by air contaminants discharged into the outdoor atmosphere from ferrous foundries.

II. Definitions

For the purpose of this regulation the following words and phrases shall have these meanings:

- A. Agency: State of New Hampshire Air Pollution Control Agency.
- B. ASTM: American Society for Testing and Materials.
- C. Commission: State of New Hampshire Air Pollution Control Commission.
- D. Emission: A release into the outdoor atmosphere of air contaminants.
- E. Fumes: Very small particles resulting from chemical reaction or from the condensation of vapors produced in combustion, distillation or sublimation. They are commonly metals or metallic oxides and their composition may be different from that of the parent material from which they originate.
- F. Foundry: Any installation used for melting and/or refining of ferrous metals, consisting of, but not limited to, furnace proper, checkers, flues, stack, tuyerer, fans or blowers, tapping spout, charging equipment, gas cleaning devices and other auxiliaries. The foundry furnaces may be cupola, rotary, reverbatory, electric, air, open hearth, crucible, etc.
- G. Particulate Matter: Any material, except uncombined water, which is or has been suspended in air or other gases, and which exists in a finely divided form as a liquid or solid at standard condition.
- H. Person: Any individual, partnership, firm or co-partnership, association, syndicate, company, trust, corporation, department, bureau, agency, private or municipal corporation, or any other entity recognized by law as the subject of rights and duties.
- I. Process Weight: The total weight of all materials introduced into any source operation. Solid fuel charged will be considered as part of the process weight but liquid and gaseous fuels and combustion air will not.
- J. Process Weight Rate: 1) For continuous or long-run, steady-state source operations, the total process weight for the entire period of continuous operation or for a typical portion thereof, divided by the number of hours of such period or part thereof,

2) For a cyclical or batch source operation, the total process weight for a period that covers a complete operation or an integral number of cycles, divided by the hours of actual process operation during such a period. When the nature of any process or operation or the design of any equipment is such as to permit more than one interpretation of this definition, the interpretation that results in the minimum value for allowable emission shall apply.

K. Standard Conditions: A gas temperature of 68°F. and a gas pressure of 14.7 lbs/square inch absolute.

III. Prohibition

A. No person shall cause, suffer, allow, or permit the emission of particulate matter and fumes which will exceed those limits specified in Table 1, from any ferrous foundry in operation on or prior to the effective date of this regulation.

B. When it becomes necessary to replace a foundry furnace, which was in operation prior to May 12, 1971, but not after the effective date of this revision, with a furnace which is larger, the provisions of Table 1 for new installations shall apply upon completion of said replacement.

C. Any ferrous foundry placed in operation after May 12, 1971, but prior to the effective date of this revision will be required to comply with the provisions of Table 1, "New Installations."

D. After the effective date of this part no person shall cause, suffer, permit or allow new or modified ferrous foundries to be operated in such a manner as to discharge or cause the discharge into the atmosphere any gases which: 1) contain particulate matter in excess of 50 milligrams per day standard m³ (0.022 grains DSCF).

IV. Testing

The Agency may require any person owning or operating a foundry to conduct or have conducted testing to determine compliance with this regulation. The Agency may, at its option, witness or conduct such tests. Such testing will be done at a reasonable time and all data obtained will be provided to both parties.

A. Testing to determine the quantity of emission shall be undertaken by methods of measurement accepted by the Environmental Protection Agency or the New Hampshire Air Pollution Control Agency and at a point or points such as are representative of the actual emission into the atmosphere.

B. When the Agency conducts or has conducted such tests, the person owning or operating the foundry shall provide such sampling ports as might be required, power and water sources and safety equipment such as scaffolding, railings, ladders, etc., to comply with generally accepted good safety practices.

V. Malfunction or Breakdown

In the event of malfunction or breakdown of any component part of the air pollution control equipment, emissions in excess of those specified in this regulation may be permitted by the Agency for a period not to exceed 48 hours, provided that the Agency is notified within eight hours of the malfunction or breakdown.

The Commission may, upon request of the foundry owner or his authorized representative, or at the request of the Director of the Agency, grant an extension of time or temporary variance for a period longer than 48 hours.

VI. Existing installations unable to comply with Section III.A are required without further request to submit to the Agency on or before January 1, 1972, a statement of intent as to how and when compliance will be achieved. However, all existing installations shall comply with Section III.A not later than January 1, 1973.

Table 1

Process Weight Rate (lbs/hr)	NEW INSTALLATIONS Emission Rate (lbs/hr)	EXISTING INSTALLATIONS Emission Rate (lbs/hr)
50	0.36	0.43
100	0.55	0.68
500	1.53	1.99
1,000	2.58	3.17
5,000	7.58	9.35
10,000	12.0	14.85
20,000	19.2	23.62
60,000	40.0	49.31
80,000	42.5	51.03
120,000	46.3	55.55
160,000	49.0	58.88
200,000	51.2	61.53
1,000,000	69.0	82.75
2,000,000	77.6	93.11

Interpolation of the data in Table 1 for the process weight rates up to 60,000 lbs/hr. shall be accomplished by the use of the equations:

$$E = 4.10 p^{0.67} \quad P \leq 30 \text{ tons/hr} - \text{New Installations}$$

$$E = 5.05 p^{0.67} \quad P \leq 30 \text{ tons/hr} - \text{Existing Installations}$$

and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lbs/hr. shall be accomplished by use of the equations:

$$E = 55.0 p^{0.11} - 40 \quad P > 30 \text{ tons/hr} - \text{New Installations}$$

$$E = 66.0 p^{0.11} - 48 \quad P > 30 \text{ tons/hr} - \text{Existing Installations}$$

Where:

E = Emissions in pounds per hour

P = Process Weight Rate in tons per hour

Regulation No. 11

PARTICULATE MATTER, SULFUR DIOXIDE, NITROGEN DIOXIDE, HYDROCARBONS,
CARBON MONOXIDE, OZONE AND LEAD

I. Purpose

This regulation is adopted for the purpose of delineating a maximum concentration and duration of time for particulates, sulfur dioxide, nitrogen dioxide, hydrocarbons, carbon monoxide, ozone, and lead, either separately, in combination with each other, or in combination with other contaminants in the ambient air, which are deemed compatible with the health and welfare of man.

II. Background

Pursuant to the Clean Air Act of 1967, certain areas of each State were designated as air quality control regions. On October 6, 1970, Cheshire, Sullivan, Hillsborough, Merrimack, Belknap, Rockingham, and Strafford Counties were designated as the New Hampshire portion of the Merrimack Valley-Southern New Hampshire Air Quality Control Region. On November 14, 1970, Coos County was designated as part of the Androscoggin Valley Air Quality Control Region. By the Clean Air Amendment of 1970, those areas of a State not already included in an air quality control region were required to be included in one or more such regions. Consequently, on April 1, 1971, Grafton and Carroll Counties were designated as the Central New Hampshire Intrastate Air Quality Control Region by the U. S. Environmental Protection Agency.

By the Clean Air Act of 1967, those areas of a State declared a part of an air quality control region were required to adopt ambient air quality standards to ensure the public health and welfare in that region. The Clean Air Amendment of 1970 further required the promulgation of national primary and secondary ambient air quality standards; primary standards are those protective of public health and secondary standards are those protective of public welfare. The secondary standards are the more stringent.

Accordingly, primary and secondary ambient air quality standards are hereby adopted for the entire State of New Hampshire. These primary and secondary standards are equivalent respectively to the federal primary and secondary standards and are therefore protective of both the public health and welfare. The promulgation of New Hampshire primary and secondary ambient air quality standards shall not be considered in any manner to allow significant deterioration of existing air quality in any portion of the State.

III. Definitions

For the purpose of this regulation the following words or phrases shall have these meanings:

- A. Agency: State of New Hampshire Air Resources Agency.
- B. Air Contaminants: Soot, cinders, ashes, dust, fumes, gas, mist (other than water), odor, toxic or radioactive material, particulate matter, or any combination thereof.
- C. Ambient Air: The unconfined atmosphere which envelops the earth.
- D. Arithmetic Mean: The sum of N (number) factors divided by N.
- E. Carbon Monoxide: A colorless, odorless, toxic gas having the molecular formula CO and produced by incomplete burning of carbon containing substances.
- F. Emission: A release into the outdoor atmosphere of air contaminants.
- G. Geometric Mean: The N^{th} (number) root of the product of N factors.
- H. Hydrocarbons: Compounds whose molecules consist of atoms of carbon and hydrogen and which exist in the atmosphere in a gaseous state at standard conditions.

Lead: An element of atomic weight 207.19, atomic number 82, specific gravity 11.35 (20°C), having the chemical symbol Pb. A cumulative poisonous metal which enters the environment largely through combustion and industrial process.
- I. Nitrogen Oxides (NO_x): A mixture of gases, the most significant components of which are nitric oxide, having the molecular formula NO and nitrogen dioxide, having the molecular formula NO_2 . These gases are found in the atmosphere and are produced by man by the high temperature combustion of fuel in excess air.
- J. Particulate Matter: Any material except uncombined water which is or has been suspended in air or other gases and which exists in a finely divided form as a liquid or solid at standard conditions.
- K. Ozone: A compound having the molecular formula O_3 . It is the most prevalent of those compounds called photochemical oxidants that result from a complex series of atmospheric reactions initiated by sunlight. When reactive organic substances and nitrogen oxides accumulate in the atmosphere and are exposed to the ultraviolet component of sunlight, the formation of ozone and other photochemical oxidants takes place.
- L. Standard Conditions: A gas temperature of 68° F and a gas pressure of 14.7 lbs./square inch absolute.
- M. Sulfur Dioxide: A colorless gas at standard conditions with a pungent suffocating odor, having a molecular formula of SO_2 .

IV. Directive

The degree of air purity required for particulate matter, sulfur dioxide, hydrocarbons, nitrogen dioxide, carbon monoxide, ozone, and lead depends upon the adverse

effects upon any or all receptors such as man, animals, vegetation, and property. In order to prevent the buildup of concentrations which might adversely affect the health and welfare of man, the following primary and secondary standards are hereby established.

A. Particulate Matter

1. The total suspended particulate matter shall be reported in terms of ug/m^3 (micrograms per cubic meter) of air and shall be determined by a method acceptable to the Environmental Protection Agency or the Agency.

a. Primary Ambient Air Quality Standards

- 1) The annual geometric mean of particulates shall not exceed $75 \text{ ug}/\text{m}^3$.
- 2) The maximum 24-hour concentration of particulates shall not exceed $260 \text{ ug}/\text{m}^3$ more than once per year.

b. Secondary Ambient Air Quality Standards

- 1) The annual geometric mean of particulates of $60 \text{ ug}/\text{m}^3$ shall be used as a guide in assessing implementation plans to achieve the 24-hour secondary standard.
- 2) The maximum 24-hour concentration of particulates shall not exceed $150 \text{ ug}/\text{m}^3$ more than once per year.

B. Sulfur Dioxide

1. Sulfur dioxide concentrations shall be reported in terms of micrograms per cubic meter or parts per million of ambient air, as determined by a method acceptable to the Environmental Protection Agency or the Agency.

a. Primary Ambient Air Quality Standards

- 1) The annual arithmetic mean for sulfur dioxide shall not exceed 0.030 ppm (parts per million), $80 \text{ ug}/\text{m}^3$.
- 2) The maximum 24-hour concentration shall not exceed .14 ppm, $365 \text{ ug}/\text{m}^3$ more than once per year.

b. Secondary Ambient Air Quality Standards

- 1) The maximum three-hour concentration shall not exceed 0.5 ppm, $1300 \text{ ug}/\text{m}^3$ more than once per year.

C. Carbon Monoxide

1. Carbon monoxide concentrations shall be reported in milligrams per cubic meter or parts per million parts of ambient air, as determined by a method acceptable to the Environmental Protection Agency or the Agency.

a. Primary and Secondary Ambient Air Quality Standards

- 1) The maximum 8-hour concentration shall not exceed 9 ppm, 10 milligrams per cubic meter more than once per year.
- 2) The maximum one-hour concentration shall not exceed 35 ppm, 40 milligrams per cubic meter more than once per year.

D. Nitrogen Dioxide

1. Nitrogen dioxide shall be reported in terms of micrograms per cubic meter or parts per million of ambient air, as determined by a method acceptable to the Environmental Protection Agency or the Agency.

a. Primary and Secondary Ambient Air Quality Standards

- 1) The annual arithmetic mean for nitrogen dioxide shall not exceed 0.05 ppm, 100 $\mu\text{g}/\text{m}^3$.

E. Ozone

1. Ozone shall be reported in terms of micrograms per cubic meter or parts per million of ambient air, as determined by a method acceptable to the Environmental Protection Agency or the Agency.

a. Primary and Secondary Air Quality Standards

- 1) The maximum one-hour average concentration of ozone shall not exceed 0.12 ppm, 235 $\mu\text{g}/\text{m}^3$. The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is equal to or less than 1, as determined by a statistical method acceptable to the Environmental Protection Agency.

F. Hydrocarbons

1. Hydrocarbons shall be reported in $\mu\text{g}/\text{m}^3$ of non-methane hydrocarbons as determined by a method acceptable to the Environmental Protection Agency or the Agency.

a. Primary and Secondary Ambient Air Quality Standards

- 1) The maximum three (3) consecutive hour concentration, from 06:00 hr. through 09:00 hr. of non-methane hydrocarbons shall not exceed 0.24 ppm, 160 $\mu\text{g}/\text{m}^3$ more than once per year.

G. Lead

1. Lead shall be reported in terms of micrograms per cubic meter, as determined by a method acceptable to the Environmental Protection Agency or the Agency.

a. Primary and Secondary Ambient Air Quality Standards

- 1) The maximum arithmetic mean averaged over a calendar quarter shall not exceed 1.5 $\mu\text{g}/\text{m}^3$.

V. Analysis

Methods of analysis for these contaminants shall be as specified under each contaminant or by such other method as is acceptable to the Agency.

Regulation No. 12

PREVENTION, ABATEMENT, AND CONTROL OF CONTAMINANTS
FROM THE BURNING OF TIRES AND TUBES

I. Purpose

This regulation is adopted for the purpose of preventing, abating, and controlling air pollution caused by the open burning of tires and tubes.

II. Definitions

For the purpose of this regulation the following words and phrases have these meanings:

A. Agency: State of New Hampshire Air Pollution Control Agency.

B. Commission: State of New Hampshire Air Pollution Control Commission.

C. Person: Any individual, partnership, firm or co-partnership, association, syndicate, company, trust, corporation, department, bureau, agency, private or municipal corporation, or any other entity recognized by law as the subject of rights and duties.

D. Tires: Any device, rubber or synthetic, pneumatics, solid or liquid filled, upon which vehicles or machines may be or have been driven or moved.

E. Tubes: Any device, rubber or synthetic, used in conjunction with tires for the purpose of containing or having contained air within a tire cavity.

III. Prohibition

No person shall cause, suffer, allow or permit tires, tubes or any portion thereof to be burned in the open air at any area or place for any reason.

Tires and tubes received at any dump which is permitted to burn by Regulation No. 2 will be separated from the waste and disposed of by other means than open burning.

IV. Those portions of Regulation No. 1 which might be interpreted as permitting the burning of tires and tubes are hereby superseded and the provisions of this regulation shall govern.

Regulation No. 13

PREVENTION, ABATEMENT, AND CONTROL OF AIR
CONTAMINANTS FROM THE SAND AND GRAVEL INDUSTRY
AND THE CEMENT, READY MIX CONCRETE & CEMENT BLOCK INDUSTRY

I. Purpose

This regulation is adopted for the purpose of preventing, abating, and controlling air pollution caused by the emission of air contaminants into the ambient air from the operation of sand and gravel facilities, and the operation of cement, ready mix concrete, and cement block manufacturing facilities.

II. Definitions

For the purpose of this subtitle the following words or phrases have these meanings:

- A. Agency: State Air Pollution Control Agency.
- B. Commission: State Air Pollution Control Commission.
- C. Air Contaminants: Soot, cinders, ashes, dust, fumes, gas, mist (other than water), odor, toxic or radioactive material, particulate matter, or any combination thereof.
- D. Cement, Ready Mix Concrete, and Cement Block Facility: Any establishment engaged in the manufacturing or handling of bulk cement or the handling of cement and aggregate for the manufacture of ready mix cement or the manufacture and handling of cement blocks.
- E. Emission: The release into the outdoor atmosphere of air contaminants.
- F. Sand and Gravel Facility: Any activity where grinding, crushing, drying, mixing, conveying, sizing and blending of rock, sand and gravel products is conducted, including all equipment and auxiliaries utilized in these functions.
- G. Particulate Matter: Any material except uncombined water, which is or has been suspended in air or other gases and exists in a finely divided form as a liquid or solid at standard conditions.
- H. Ringelmann Chart: Chart published and described in the U.S. Department of the Interior, Bureau of Mines, Information Circular 8333 and on which are illustrated graduated shades of grey to black for use in estimating the obscuring capacity of particulate matter.
- I. Person: Any individual, partnership, firm or co-partnership, association, syndicate, company, trust, corporation, department, bureau, agency, private or municipal corporation, or any other entity recognized by law as the subject of rights and duties.
- J. Fugitive Dust: Any and all particulate matter generated by the operation of sand and gravel facilities, which, if not confined or collected, would be emitted directly to the air from points other than the stack outlet.

K. Opacity: The degree of optical density of any translucent medium; the common logarithm of the ratio of the initial intensity of light to the intensity of transmitted or reflected light.

L. Portland Cement Plant: Any facility manufacturing Portland Cement by either the wet or dry process.

III. Control of Particulate Emissions

A. No person shall cause, suffer, allow, or permit a sand and gravel facility to operate which is not equipped with a fugitive dust control system operated and maintained in such a manner as to control the emission of particulate matter. Emissions shall be limited to a visual limit of 20% equivalent opacity at crushers, transfer points and screens.

B. No person shall cause, suffer, allow, or permit the operation of a facility for the cement, ready mix concrete, or cement block industry in such a manner as to permit visible emission in excess of 20% equivalent opacity.

C. No person shall cause, suffer, allow or permit the operation of a Portland cement plant in such a manner as to permit particulate emissions in excess of the following:

- 1) 0.30 lbs. from the kiln per ton of feed to the kiln (0.15 kg per metric ton) 2 hr. average.
- 2) 0.10 lbs. from the clinker cooler per ton of feed to the kiln (0.050 kg per metric ton) 2 hour average.
- 3) There shall be no visible emission from individual sources within the plant that exceed 10% equivalent opacity.

D. The facility owner and/or operator shall control the dust from vehicular movement over access roads to, from, and within the facility premises by suitable means; e.g., paving, oiling, wetting, or other. Good operating practices shall be maintained at all times relative to stockpiling, screen changing, and general maintenance.

E. No person shall cause, suffer, allow, or permit the transportation of shatterable material on any public way unless suitably covered to prevent shattering or eroding by wind, apparent wind or weather.

IV. Testing

The Agency may require any person owning or operating the equipment to conduct or have conducted testing to determine compliance with this regulation. The Agency may, at its option, witness or conduct such tests. Such testing will be done at a reasonable time and all data obtained will be provided to both parties. A detailed test plan will be agreed upon by both parties prior to the start of testing.

A. Testing to determine the quantity of emission shall be undertaken by methods of measurement accepted by the Environmental Protection Agency or the Agency, and at a point or points such as to be representative of the actual emission into the atmosphere.

B. When the Agency conducts or has conducted such tests, the person owning or operating the equipment shall provide such sampling ports as might be required, power and water sources and safety equipment such as scaffolding, railing, ladders, etc. to comply with generally accepted good safety practices.

V. Notification

All persons owning or operating a sand and gravel facility shall notify the Agency of the name of the individual operating the facility, location of the facility, size, make, and type of air pollution control equipment on forms supplied by the Agency within 30 days of the effective date of this regulation.

When such facilities are modified by changes which significantly affect the emission characteristics of the facility, the owner or operator shall then renotify the Agency of these changes within 30 days after placing such modification in operation.

Portable facilities will advise the Agency of any relocation within five days of commencement of operations at a new location. Forms for this purpose are available at the Agency upon request.

VI. Malfunctions and Breakdowns

In the event of any malfunction in equipment or the breakdown of any component part of the air pollution control equipment, emissions exceeding those specified may be permitted by the Agency for a period not to exceed 48 hours, if the Agency is notified within eight hours of the malfunction or breakdown. The Commission may upon request of the owner or operator of the facility or at the request of the Director of the Agency grant an extension of time or temporary variance for a period longer than 48 hours.

VII. Compliance Schedule

Existing installations unable to comply with Sections III and IV are required without further request to submit to the Agency on or before December 31, 1972, a statement of intent as to how and when compliance will be achieved. However, all existing installations shall comply with Section III.A not later than December 31, 1973.

Regulation No. 14

PREVENTION, ABATEMENT AND CONTROL OF AIR CONTAMINANTS FROM
NON-FERROUS FOUNDRIES, SMELTERS, AND INVESTMENT CASTING INDUSTRIES

I. Purpose

This regulation is adopted for the purpose of preventing, abating, and controlling air pollution caused by air contaminants discharged into the ambient atmosphere from non-ferrous foundries, smelters, and investment casting facilities.

II. Definitions

For the purpose of this regulation the following words and phrases shall have these meanings:

- A. Agency: State of New Hampshire Air Pollution Control Agency.
- B. ASTM: American Society for Testing and Materials.
- C. Commission: State of New Hampshire Air Pollution Control Commission.
- D. Emission: A release into the outdoor atmosphere of air contaminants.

E. Fumes: Very small particles resulting from chemical reaction or from the condensation of vapors produced in combustion, distillation or sublimation. They are commonly metals or metallic oxides and their composition may be different from that of the parent material from which they originate.

F. Non-Ferrous Foundry: Any installation used for melting and alloying nonferrous metals such as brass, bronze and zinc, consisting of but not necessarily limited to rotary, reverbatory, induction furnaces; crucibles, or kettles. The furnace or other melting device shall consist of furnace proper, flues, stack, tuyeres, fans or blowers, tapping spout, charging equipment, gas cleaning devices and other auxiliaries.

G. Smelter: Any installation designed to separate a metal from its ores, or to process scrap metal from secondary materials markets. A smelter installation shall consist of various concentrating, roasting, smelting, sintering, condensing and converting equipment and associated gas cleaning devices and other auxiliaries.

H. Investment Casting Facilities: Any installation involving the fabrication of precision parts by means of the "lost wax" or related methods.

I. Particulate Matter: Any material, except uncombined water, which is or has been suspended in air or other gases, and exists in a finely divided form as a liquid or solid at standard conditions.

J. Opacity: The degree of optical density of any translucent medium; the common logarithm of the ratio of the initial intensity of light to the intensity of transmitted or reflected light.

K. Person: Any individual, partnership, firm or co-partnership, association, syndicate, company, trust, corporation, department, bureau, agency, private or municipal corporation, or any other entity recognized by law as the subject of rights and duties.

L. Process Weight: The total weight of all materials introduced into any source operation. Solid fuel charged will be considered as part of the process weight but liquid and gaseous fuels and uncombined water and combustion air will not.

M. Process Weight Rate:

1. For continuous or long-run, steady-state source operations, the total process weight for the entire period of continuous operation or for a typical portion thereof, divided by the number of hours of such period or part thereof.

2. For a cyclical or batch source operation, the total process weight for a period that covers a complete operation or an integral number of cycles, divided by the hours of actual process operation during such a period. When the nature of any process or operation or the design of any equipment is such as to permit more than one interpretation of this definition, the interpretation that results in the minimum value for allowable emission shall apply.

N. Standard Conditions: A gas temperature of 68°F and a gas pressure of 14.7 lbs/square inch absolute.

O. Effects Factor: A value assigned to air contaminants in the form of a numerical modifier which, when multiplied by emission rate, yields allowable emission.

P. Secondary Lead Smelter: Any facility producing lead from lead bearing scrap material by smelting to the metallic form.

Q. Secondary Brass and Bronze Ingot Production Plant: Any facility producing brass or bronze ingots from copper, zinc, tin, lead, or other scrap metals.

III. Prohibition

A. No person shall cause, suffer, allow, or permit the emission of particulate matter or fumes in any one hour period from non-ferrous foundries, smelters or investment casting facilities which will exceed those limits specified in Table 1. If any of these facilities emit particulate matter of a toxic nature, these emissions are to be further limited in accordance with Table 2.

B. No person shall cause, suffer, allow or permit the emission of gaseous pollutants from non-ferrous foundries, smelters or investment casting facilities which exceed those limits specified in Table 3.

C. On or after the effective date of this part, no person shall operate a new or modified secondary lead smelter in such a manner as to discharge or cause the discharge into the atmosphere of any gases

1. from blast (cupola) furnaces which:
 - a. contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf)
 - b. exhibit 20% opacity or greater
2. from electric furnaces (pot furnaces) which exhibit 10% opacity or greater.

3. where the presence of uncombined water is the only reason for failure to meet the requirements of this section, such failure shall not be a violation of this part.

D. On or after the effective date of this part no person shall operate a new or modified secondary brass and bronze ingot production plant in such a manner as to discharge or cause the discharge into the atmosphere any gases

1. from a reverberatory furnace of 1000 kg (2,205 lb) or greater production capacity which:
 - a. contains particulate matter in excess of 50 mg/dscm (0.022 gr/dscf)
 - b. exhibit 20% opacity or greater
2. from electric furnaces of 1000 kg (2,205 lb) or greater production capacity and/or blast (cupola) furnace of 250 kg/hr (550 lbs/hr) or greater production capacity which exhibit 10% opacity or greater.

3. where the presence of uncombined water is the only reason for failure to meet the requirements of this section such failure shall not be a violation of this part.

E. The limits specified in Tables 1, 2 and 3 may be revised from time to time as additional and more refined technology becomes available and as dictated by air quality requirements.

IV. Testing

The Agency may require any person owning or operating a non-ferrous foundry, smelter or investment casting facility to conduct or have conducted testing to determine compliance with this regulation. The Agency may, at its option, witness or conduct such tests. Such testing will be done at a reasonable time and all data obtained will be provided to both parties. A detailed test plan will be agreed upon by both parties prior to the start of testing.

A. Testing to determine the quantity of emission shall be undertaken by methods of measurement accepted by the Environmental Protection Agency or the New Hampshire Air Pollution Control Agency and at a point or points such as are representative of the actual emission into the atmosphere.

B. When the Agency conducts or has conducted such tests, the person owning or operating the facility shall provide such sampling ports as might

be required, power and water sources and safety equipment such as scaffolding, railings, ladders, etc., to comply with generally accepted good safety practices.

V. Malfunction or Breakdown

In the event of malfunction or breakdown of any component part of the air pollution control equipment, emissions in excess of those specified in this regulation may be permitted by the Agency for a period not to exceed 48 hours, provided that the Agency is notified within eight hours of the malfunction or breakdown.

The Commission may, upon request of the owner or his authorized representative, or at the request of the Director of the Agency, grant an extension of time or temporary variance for a period longer than 48 hours.

VI. Compliance Schedule

Owners/operators of existing installations unable to comply with Section III above, must submit to the Agency, prior to December 31, 1972, a compliance schedule delineating the progressive steps required to bring these installations into compliance with this regulation on or before December 31, 1973. Such progressive steps shall include, but are not limited to, date for submittal of engineering plans, proof of purchase of the required control equipment, and date of completion and operation of the modified or new installation. Compliance schedules shall be subject to the approval of the Director.

VII. Notification

All persons owning or operating non-ferrous foundries, smelters, and investment casting facilities, shall notify the Agency of the name of the individual operating the facility, location of the facility, and size, make and type of air pollution control equipment, in forms supplied by the Agency within 30 days of the effective date of this regulation. When such facilities are modified by changes which significantly affect the emission characteristics of the facility, the owner or operator shall then renotify the Agency of these changes within 30 days after placing such modification into operation.

Table 1

Process Weight Rate (lbs/hr)	NEW INSTALLATIONS Emission Rate (lbs/hr)	EXISTING INSTALLATIONS Emission Rate (lbs/hr)
50	0.36	0.43
100	0.55	0.68
500	1.53	1.99
1,000	2.58	3.17
5,000	7.58	9.35
10,000	12.0	14.85
20,000	19.2	23.62
60,000	40.0	49.31
80,000	42.5	51.03
120,000	46.3	55.55
160,000	49.0	58.88
200,000	51.2	61.53
1,000,000	69.0	82.75
2,000,000	77.6	93.11

Interpolation of the data in Table 1 for the process weight rates up to 60,000 lbs/hr. shall be accomplished by the use of the equations:

$$E = 4.10 p^{0.67} \quad p \leq 30 \text{ tons/hr} - \text{New Installations}$$

$$E = 5.05 p^{0.67} \quad p \leq 30 \text{ tons/hr} - \text{Existing Installations}$$

and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lbs./hr. shall be accomplished by use of the equations:

$$E = 55.0 p^{0.11} - 40 \quad p > 30 \text{ tons/hr.} - \text{New Installations}$$

$$E = 66.0 p^{0.11} - 48 \quad p > 30 \text{ tons/hr.} - \text{Existing Installations}$$

Where:

E = Emissions in pounds per hour

P = Process Weight Rate in tons per hour

Table 2

EFFECTS FACTOR FOR PARTICULATE MATTER

MATERIAL

A. All material not specifically listed here	1.0
B. Elements and their compounds of the basic elements	
Antimony	0.9
Arsenic	0.9
Barium	0.9
Cadmium	0.2
Chromium	0.2
Cobalt	0.9
Copper	0.2
Hafnium	0.9
Lead - Lead arsenate	0.3
Lithium hydride	0.04
Phosphorus	0.2
Selenium	0.2
Silver	0.1
Tellurium	0.2
Thallium	0.2
Uranium (soluble)	0.1
Uranium (insoluble)	0.4
Vanadium	0.2
Zinc Oxide	0.8
Beryllium - Not more than 10 grams of beryllium over a 24-hour period. The operator may elect to meet the ambient air concentration of 0.01 ug/m ³ averaged over a 30-day period and measured in the vicinity of the source.	
Mercury - Not more than 2300 grams per 24-hour period. The provisions of this subpart are applicable to those stationary sources which process mercury ore or recover mercury and to those which use mercury chloralkale cells to produce chlorine gas and alkali metal hydroxide.	
C. Mineral material and miscellaneous substances	
Silica (crystalline)	0.4
Asbestos - As specified by the EPA in Vol. 38, #66, Federal Register, Friday, April 6, 1973.	

Table 3

Limitations on emission of sulfur oxides (as SO_2) from primary non-ferrous smelters are required in accordance with the following equations, for new installations:

Copper Smelters	$Y = 0.2X$
Zinc Smelters	$Y = 0.564X^{0.85}$
Lead Smelters	$Y = 0.98X^{0.77}$

where:

X = Total sulfur fed to smelter (lb/hr.)

Y = Sulfur dioxide emissions (lb/hr.)

Regulation No. 15

PREVENTION, ABATEMENT AND CONTROL OF AIR CONTAMINANTS
FROM THE PULP AND PAPER INDUSTRY

I. Purpose

This regulation is adopted for the purpose of preventing, abating, and controlling air pollution caused by emissions into the ambient atmosphere from the pulp and paper industry.

II. Definitions

For the purpose of this regulation the following words and phrases shall have these meanings:

- A. Agency: State of New Hampshire Air Pollution Control Agency.
- B. ASTM: American Society for Testing and Materials.
- C. Commission: State of New Hampshire Air Pollution Control Commission.
- D. Emission: A release into the outdoor atmosphere of air contaminants.
- E. Pulp and Paper Industry: That segment of industry involving the manufacture of pulp, including but not necessarily limited to Kraft and sulfite pulps, and paper, including but not necessarily limited to fine papers, coarse papers, and specialty papers.
- F. Kraft Mills: Any pulping process which uses, for a cooking liquor, an alkaline sulfide solution containing sodium hydroxide and sodium sulfide.
- G. Sulfite Mills: Any pulping process which uses, for a cooking liquor, an acidic solution containing sulfurous acid and a bisulfite of an alkaline base such as calcium, sodium, ammonium or magnesium.
- H. Person: Any individual, partnership, firm or co-partnership, association, syndicate, company, trust, corporation, department, bureau, agency, private or municipal corporation, or any other entity recognized by law as the subject of rights and duties.
- I. Particulate Matter: Any material, except uncombined water, which is, or has been suspended in air or other gases, and which exists in a finely divided form as a liquid or solid at standard conditions.
- J. Total Reduced Sulfur (TRS): Hydrogen sulfide, mercaptans, dimethyl sulfide, dimethyldisulfide, and any other organic sulfides present in the emissions from a pulp and/or paper mill.
- K. Process Weight: The total weight of all materials introduced into any source operation. Solid fuel charged will be considered as part of the process weight but liquid and gaseous fuels and uncombined water and combustion air will not.

L. Process Weight Rate:

1. For continuous or long-run, steady-state source operations, the total process weight for the entire period of continuous operation or for a typical portion thereof, divided by the number of hours of such period or part thereof.

2. For a cyclical or batch source operation, the total process weight for a period that covers a complete operation or an integral number of cycles, divided by the hours of actual process operation during such a period. When the nature of any process or operation, or the design of any equipment is such as to permit more than one interpretation of this definition, the interpretation that results in the minimum value for allowable emission shall apply.

M. Organic Vapors: Gaseous materials formed from the evaporation of organic liquids or from the combustion of organic materials.

N. Gases: Formless fluids which, under standard conditions, occupy the space of enclosure and which can be changed to the liquid or solid state only by the combined effect of increased pressure and decreased temperature.

O. Aerosols: Liquid particles which have volume but are not of rigid shape and which upon collection tend to coalesce and create uniform homogeneous films upon the surface of the collecting media.

III. Prohibition

A. No person shall cause, suffer, allow or permit the emission of particulate matter from Kraft Mill recovery furnace stacks in excess of 4 pounds per ton of air dried pulp.

B. No person shall cause, suffer, allow or permit the emission of particulate matter from Kraft Mill lime kilns in excess of one pound per ton of air dried pulp.

C. No person shall cause, suffer, allow or permit the emission of particulate matter from Kraft Mill smelt tanks in excess of one-half pound per ton of air dried pulp.

D. No person shall cause, suffer, allow or permit the emission of particulate matter from sulfite mills in excess of those limits specified in Table 1. Particulate emissions from fuel burning equipment at sulfite mills are regulated by Regulation No.4.

E. No person shall cause, suffer, allow or permit the emission of TRS from Kraft Mill recovery furnace stacks in excess of 2 pounds of sulfur per ton of air dried pulp.

F. No person shall cause, suffer, allow or permit the emission of sulfur oxides, calculated as sulfur dioxide, from existing sulfite mills in excess of 20 pounds per ton of air dried pulp.

G. No person shall cause, suffer, allow or permit the emission of particulate matter from paper manufacturing (as opposed to pulp manufacturing), in excess of these limits specified in Table 1.

IV. Testing

The Agency may require any person owning or operating any pulp and paper manufacturing facility to conduct or have conducted testing to determine compliance with this regulation. The Agency may, at its option, witness or conduct such tests. Such testing will be done at a reasonable time and all data obtained will be provided to both parties. A detailed test plan will be agreed upon by both parties prior to the start of testing.

A. Testing to determine the quantity of emission shall be undertaken by methods of measurement accepted by the Office of Air Programs of the EPA or the Agency, and at a point or points such as to be representative of the actual emission into the atmosphere.

B. When the Agency conducts or has conducted such tests, the person owning or operating the equipment shall provide such sampling ports as might be required, power and water sources and safety equipment such as scaffolding, railing, ladders, etc., to comply with generally accepted good safety practices.

V. Notification

All persons owning or operating a pulp and paper manufacturing facility shall notify the Agency of the name of the individual operating the facility, location of the facility, and size, make and type of air pollution control equipment, on forms supplied by the Agency, within 30 days of the effective date of this regulation. When such facilities are modified by changes which significantly affect the emission characteristics of the facility, the owner or operator shall then renotify the Agency of these changes within 30 days after placing such modification into operation.

VI. Compliance Schedule

Owners/operators of existing installations unable to comply with Section III above, must submit to the Agency, prior to December 31, 1972, a compliance schedule delineating the progressive steps required to bring these installations into compliance with this regulation on or before December 31, 1974. Such progressive steps shall include, but are not limited to; date for submittal of engineering plans, proof of purchase of the required control equipment, and date for completion and operation of the modification or new installation. Compliance shall be subject to approval of the Director.

Table 1

Process Weight Rate (lbs/hr)	NEW INSTALLATIONS Emission Rate (lbs/hr)	EXISTING INSTALLATIONS Emission Rate (lbs/hr)
50	0.36	0.43
100	0.55	0.68
500	1.53	1.99
1,000	2.58	3.17
5,000	7.58	9.35
10,000	12.0	14.85
20,000	19.2	23.62
60,000	40.0	49.31
80,000	42.5	51.03
120,000	46.3	55.55
160,000	49.0	58.88
200,000	51.2	61.53
1,000,000	69.0	82.75
2,000,000	77.6	93.11

Interpolation of the data in Table 1 for the process weight rates up to 60,000 lbs/hr. shall be accomplished by the use of the equations:

$$E = 4.10 P^{0.67} \quad P \leq 30 \text{ tons/hr} - \text{New Installations}$$

$$E = 5.05 P^{0.67} \quad P \leq 30 \text{ tons/hr} - \text{Existing Installations}$$

and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lbs/hr. shall be accomplished by use of the equations:

$$E = 55.0 P^{0.11} - 40 \quad P > 30 \text{ tons/hr} - \text{New Installations}$$

$$E = 77.0 P^{0.11} - 48 \quad P > 30 \text{ tons/hr} - \text{Existing Installations}$$

REGULATION NO. 16

REQUIREMENT FOR STATEWIDE PERMIT SYSTEM REGULATING THE
OPERATION OF NEW AND EXISTING SOURCES OF AIR POLLUTION
AND OF MODIFICATIONS OF EXISTING SOURCES OF AIR POLLUTION.

I. Purpose

This regulation is adopted for the purpose of regulating new and existing stationary sources of air pollution and the modification of existing sources, such that the ambient air quality standards set forth in New Hampshire regulations will be achieved and maintained.

II. Definitions

For the purpose of this regulation, the following words and phrases shall have these meanings:

- A. Agency: State of New Hampshire Air Resources Agency.
- B. Air Pollutant: Soot, cinders, ashes, any dust, fumes, gas, mist (other than water), odor, toxic or radioactive material, particulate matter, or any combination thereof.
- C. Air Pollution Control Equipment: Any process used, as a result of regulations, in the control of air pollution; or any process which controls air pollution but is not vital to the production of normal product or normal operations.
- D. Allowable Emissions: The emissions rate calculated using the maximum rated capacity of the source (unless the source is subject to permit conditions which limit the operating rate) and the most stringent of the following: (1) Applicable New Source Performance Standards (40 CFR 60), (2) National Emission Standards for Hazardous Air Pollutants (40 CFR 61) or, (3) New Hampshire State Implementation Plan emission limitations.
- E. Ambient Air: The unconfined atmosphere that envelops the earth.
- F. Ambient Air Quality Standard: Any standard which establishes the maximum allowable concentration of a specific pollutant in the ambient air of a region or subregion as established by the Commission or by the Administrator of the United States Environmental Protection Agency.
- G. Best Available Control Technology (BACT): Any emission control device or technique which the Agency determines

to be available for maximum reduction of emission based on energy, environmental and economic considerations. The emission limits allowed by BACT will not exceed the applicable limits for New Source Performance Standards.

- H. Commission: State of New Hampshire Air Resources Commission.
- I. Device: Any burner, furnace, machine, equipment, or article which, in the opinion of the Air Pollution Control Agency, contributes or may contribute to the pollution of the air. These devices have been placed into the following classes:
 - 1. Class A devices shall include any residential or commercial heating plant which falls within ranges of heat input or particulate matter output established in the New Hampshire State Implementation Plan;
 - 2. Class B devices shall include but not be limited to industrial heating plants and furnaces and processes which generate and discharge air contaminants or pollutants into the air;
 - 3. Class C devices shall include devices designed for the incineration of waste or refuse but shall not include residential incinerators.
- J. Director: The Director of the New Hampshire Air Resources Agency.
- K. Emission: The release of air pollutants into the ambient air.
- L. Existing Stationary Source: Any stationary source for which a permit application for construction or modification was received by the New Hampshire Air Pollution Control Agency prior to the effective date of this regulation.
- M. Fugitive Dust: Particulate matter composed of soil which is uncontaminated by pollutants resulting from industrial activity. Fugitive dust may include emissions from haul roads, wind erosion of exposed soil surfaces and soil storage piles, and other activities in which soil is either removed, stored, transported, or redistributed.
- N. Fugitive Emissions: The gaseous or particulate matter generated by a stationary source which does not escape into the ambient air through primary exhaust systems such as a stack, but through openings such as windows, vents, doors, or poorly maintained equipment.
- O. Lowest Achievable Emission Rate (LAER): The more stringent rate of emissions of either the (1) lowest emission

standards established by any state for such class or category of the source - unless the owner or operator demonstrates that the state limitations are not achievable - or (2) the lowest emission limitation which is achieved in practice by such class or category of the source.

- P. Mobile Source: Any source involving motor vehicular activity.
- Q. Modification: Any physical change in, or change in the operation of, a stationary source which increases the amount of a specific air pollutant emitted by such source or which results in the emission of any additional air pollutant.
- R. New Stationary Source: Any stationary source for which a permit application for construction or modification was received by the New Hampshire Air Pollution Control Agency after the effective date of this regulation.
- S. Non-Attainment Area: An area which has shown by monitored data or which is calculated by air quality modeling to exceed a New Hampshire or national ambient air quality standard for a particular pollutant.
- T. Owner or Operator: Any person who owns, leases, operates, controls or supervises a stationary source.
- U. Particulate Matter: Any material, except uncombined water, which is or has been suspended in air or other gases and which exists in a finely divided form as a liquid or solid at standard conditions (68 degrees F and 29.92 inches Hg.).
- V. Person: Any individual, partnership, firm, or co-partnership, association, company, trust, corporation, department, bureau, agency, private or municipal corporation or any political subdivision of the State, the United States or political subdivisions or agencies thereof, or any other entity recognized by law as the subject of rights and duties.
- W. Potential to Emit: The capability at maximum capacity to emit a pollutant in the absence of air pollution control equipment.

Annual potential to emit is based on the maximum annual rated capacity of the source unless the source is subject to enforceable permit conditions which limit the annual hours of operation and/or the operating rate. Enforceable permit conditions on the type of amount of materials combusted or processed may be used in determining the potential emission rate of a source.

- X. Stationary Source: Any building, structure, facility, installation or other operation not identified as a mobile or indirect source which emits or may emit any air pollutant. A stationary source may contain a group of devices located on one or more contiguous or adjacent properties owned or operated by the same person.
- Y. Reasonable Further Progress: The annual incremental reductions in emissions of an applicable air pollutant which are sufficient in the judgement of the Director, to provide for attainment of the applicable National Ambient Air Quality Standard by the date specified in the SIP.

III. Requirements for Permits

- A. The construction, installation, initial operation or modification of any stationary source of air pollution shall be prohibited unless such source possesses a Temporary Permit or a Permit to Operate for each Class B or C device.
- B. Permits are not required for the following devices:
 - 1. A Residential Incinerator associated with a one or two-family dwelling.
 - 2. A Class A device specified as a residential or commercial heating plant which:
 - a. Has a maximum rated heat input of less than one million BTUs per hour utilizing #1 or #2 fuel oils or gas, or
 - b. Uses electricity to generate heat, or
 - c. Uses wood, charcoal, coal, or coke for heating or recreational purposes in a one or two-family dwelling.
- C. The Director may require owners or operators of devices for which exemption eligibility is claimed to demonstrate to his satisfaction that the source conforms to Section III. of this regulation.
- D. A Temporary Permit, which may contain conditions, shall be required prior to commencement of construction or installation of any new or modified device, and shall be in effect until a designated expiration date, or until a Permit to Operate is issued, unless sooner revoked by the Director. The expiration date for a Temporary Permit may be extended by the Director if he determines that circumstances causing the delay are justified.
- E. A Permit to Operate, which may contain conditions, shall

normally be issued with respect to a device for which a Temporary Permit is in effect. This permit will be issued by the Director and remain in effect until the designated expiration date or until sooner revoked by the Director.

- F. Prior to the issuance of a Temporary Permit or a Permit to Operate, the owner or operator shall meet the following minimum requirements:
1. The owner or operator has demonstrated to the satisfaction of the Agency that the device will be in compliance with New Hampshire Air Pollution Control regulations.
 2. The owner or operator will conduct or has conducted a valid test for air pollutants, if required by the Director.
 3. The owner or operator will install and properly maintain an Agency approved continuous emission monitoring system on any device, if required by the Director.
 4. The device will operate without endangering maintenance or attainment of any applicable air quality standard.
 5. The device will operate in accordance with the provisions of Attachment #1 to this regulation regarding Prevention of Significant Deterioration of air quality (if applicable).
 6. The device will operate in accordance with the provisions of Attachment #2 to this regulation regarding air pollution in a Non-Attainment Area (if applicable).
 7. The device will operate in accordance with all Federal regulations to include New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAPS).
 8. The owner or operator of the source has paid to the Agency, for each device, a fee specified in Attachment #3 to this regulation.
- G. The holder of a Temporary Permit or Permit to Operate shall notify the Agency within 15 calendar days of any change in the proposed operation of the device covered by the permit and which represents a significant deviation from the circumstances of the permit application. In the event of failure to provide such notification, the Director may, following a hearing, suspend or revoke the previously issued permit, and/or may require the owner or operator of the device to submit a new application. Any new application will be subject to all applicable provisions of this regulation.

- H. In the event a stationary source changes ownership, the new owner or operator of the source will submit a new application to the Agency for each device no later than 15 calendar days from the date of transfer of ownership. The new application will be subject to all provisions of this regulation.
- I. The renewal of a Permit to Operate will be accomplished by the Agency after a thorough review of the conditions for which the previous permit was granted and receipt of the permit fee from the holder of the permit.

IV. Requirements for Permit Applications

- A. No person shall cause, suffer, or allow the commencement of construction of a new stationary source or the modification of an existing stationary source without first having applied for and been issued a Temporary Permit for each device subject to New Hampshire regulations, unless exempted by Section III. of this regulation.
- B. Application for a Temporary Permit shall be made by completing and submitting forms provided for that purpose by the Agency (Ref. Forms APCA 1-6).
 - 1. A separate permit application shall be submitted for each device.
 - 2. All applications shall be accompanied by supplemental information, including a description of the stationary source and such engineering plans, specifications, measurement data, or such other information as may be stipulated by the Agency.
- C. Application for Permits to Operate shall be made by:
 - 1. Notifying the Agency in writing within seven (7) calendar days of completion of construction of those devices which received Temporary Permits, that construction is complete for purposes of inspection.
 - 2. Completing and submitting forms provided for that purpose by the Agency (Ref. Forms APCA 1-6) for those devices that required temporary permits, but for which application for such permits was not made.
- D. The Director may require the owner or operator applying for a Permit to Operator to provide additional information that he deems necessary or that has not previously been provided in the application for a Temporary Permit.
- E. An applicant for a permit shall, upon receipt of notifica-

tion by the Director of refusal to grant a permit, resubmit his application and shall provide such additional information in support of his new submission as the Director may stipulate.

V. Requirements for the Review of Permit Applications

- A. The Agency will notify the applicant as to the completeness of a permit application within thirty (30) days of receipt of the application. An application will not be deemed to have been received by the Agency until all required information and documents specified by the Director have been submitted in proper form.
- B. Failure of the Agency to acknowledge a permit application within thirty (30) days of receipt will delete the fee requirement for the applicant specified in Attachment #3 to this regulation.
- C. Agency review procedures for construction of any new stationary source or for the modification of any existing stationary source will be conducted on a case-by-case basis.
- D. All permit applications will be reviewed to insure compliance with all applicable elements of the New Hampshire State Implementation Plan and associated Air Pollution Control regulation.
- E. All permit applications will be subject to review under the provisions of the Federal regulations for New Source Performance Standards (NSPS) and National Emissions Standards for Hazardous Air Pollutants (NESHAP).
- F. The Agency will require an analysis of "Good Engineering Practice for Stack Height" for those devices having stack emissions which interfere unreasonably with the enjoyment of life and property, or significantly impact on attainment or non-attainment areas. The analysis will follow Federal standards for the minimum and maximum stack height criteria. An analysis for exhaust gas velocity may also be required if deemed necessary by the Agency.
- G. Action by the Agency on any permit application shall consist of one of the following:
 - 1. The issuance or denial of a Temporary Permit for those devices which are not subject to the source review requirement for Prevention of Significant Deterioration in Attachment #1 or Non-Attainment Areas in Attachment #2.
 - 2. The issuance or denial of a Temporary Permit for those

devices which, due to their potential emission rate, are subject to a source review under the provisions for Prevention of Significant Deterioration (Attachment #1) and/or for Non-Attainment Areas (Attachment #2).

3. The initial issuance, renewal, or denial of a Permit to Operate for those devices which are not subject to the source review requirements for Prevention of Significant Deterioration in Attachment #1 or Non-Attainment Areas in Attachment #2.
 4. The initial issuance, renewal, or denial of a Permit to Operate for those devices which, due to their potential emission rate, are subject to a source review under the provisions for Prevention of Significant Deterioration (Attachment #1) and/or for Non-Attainment Areas (Attachment #2).
- H. In the event a public hearing is required to meet the requirements of this regulation, such a hearing will be conducted by the Commission in the general geographic area for the stationary source in question after a thirty (30) day public notification period.

VI. Alternative Emission Reduction Option ("Bubble" Concept)

- A. The "Bubble" Concept allows a plant or industrial site to reduce individual emission controls when costs are high in exchange for an equal increase in controls where abatement is less expensive (in order to achieve the same amount of emission reduction required by the State Implementation Plan for less cost).
- B. This concept provides for multiple process-related emission devices (stacks, vents, ports, etc.) which are individually subject to specific emission requirements under the New Hampshire State Implementation Plan (SIP) to be combined in a different mix of emission controls that will still meet the total emission control requirements in the SIP.
- C. The proper mix of emission controls will be handled on a case-by-case basis. It is recognized that in some cases, the "Bubble" Concept could permit certain devices to be uncontrolled; however, the use of the "Bubble" Concept to simply circumvent the application of any control method is not acceptable.
- D. The owner or operator of the plant or industrial site will be responsible to make application for the alternative control approach. The application must demonstrate satisfactorily that the proposal is equivalent in pollution reduction, enforceability, and environmental impact to existing individual process standards.
- E. All proposals for the alternative "Bubble" Concept must meet the following criteria:

1. The application will include an explicit demonstration that total actual emissions will not interfere with the attainment and maintenance of air quality.
 2. Actual emissions must be quantifiable and trade-offs must be even. This criterion also applies to fugitive emissions.
 3. Only trade-offs for the same specific pollutant will be acceptable (e.g. carbon monoxide cannot be traded for sulfur dioxide).
 4. Different health or ambient air impacts cannot be traded against each other. For example:
 - a. Certain hydrocarbon emissions such as Benzene (which has been determined to be hazardous) cannot be traded against other hydrocarbon emissions.
 - b. Emissions from open dust sources like roads or storage piles cannot be traded against emissions from stacks.
 5. Specific limitations on each device must be identified. Accordingly, a separate permit will be issued for each device and that permit shall specify the absolute emission limit as a condition for issuing the permit.
 6. The specific emission limitation for each device must have an enforceable testing requirement.
 7. The proposal will be restricted to devices which are either (1) in compliance or (2) not in compliance, but meeting an approved compliance schedule.
 8. The proposal will not be used to delay or defer compliance deadlines. (However, the proposal may be adopted to establish earlier compliance dates.)
 9. The proposal will not cause a delay in existing enforcement actions.
- F. Agency acceptance of each proposed alternative approach will require final approval by the United States Environmental Protection Agency.

VIII. Criteria for Denial, Suspension or Revocation of Permits

- A. The Director shall deny an application for a permit if, on the basis of evidence available to him, he determines:
 1. That the device for which the permit is sought will result in a violation of any air pollution standard or regulation in force (including Attachments #1 and #2 to this regulation), or;
 2. The device will contribute disproportionately to pollution of the air in comparison with other currently

available similar devices able to perform the same function.

- B. The Director may suspend or revoke any permit issued by the Agency if, following a hearing, he determines:
1. That the permit holder has committed a violation of any regulation or order or permit conditions in force and applicable to it, or
 2. That emissions from the device to which the permit applies, alone or in conjunction with other sources of the same pollutants, presents an immediate danger to the public health.

NEW HAMPSHIRE AIR RESOURCES COMMISSION

REGULATION NO. 16

ATTACHMENT #2

I. Purpose

This attachment provides information for additional permit reviews for stationary sources impacting on areas of New Hampshire that exceed National Ambient Air Quality Standards, or have been designated as non-attainment areas.

II. Applicability

- A. The permit review procedure pertains to any new stationary source or modification to any existing stationary source for which an application is received by the Agency after the effective date of this regulation and which will locate within or impact on an area that exceeds the National Ambient Air Quality Standards for Total Suspended Particulates (TSP), Sulfur Dioxide (SO₂), Nitrogen Dioxide (NO₂), Carbon Monoxide (CO), or Ozone (O₃).

NOTE: The control of Volatile Organic Compounds (VOC) must be accomplished to achieve the Ozone (O₃) standard.

- B. The areas within New Hampshire that exceed the National Ambient Air Quality Standards and are thus designated as non-attainment areas in the State are as follows:
1. Total Suspended Particulates (TSP): Within the city limits of Manchester and Berlin.
 2. Sulfur Dioxide (SO₂): Within the city limits of Berlin.
 3. Nitrogen Dioxide (NO₂): No non-attainment areas within the State.
 4. Carbon Monoxide (CO): Within the city limits of Manchester and Nashua.
 5. Ozone (O₃): Within the counties of Belknap, Cheshire, Hillsborough, Merrimack, Rockingham, Strafford and Sullivan.
- C. The non-attainment review will be performed for permit applications for those stationary sources which have a potential emission rate (including fugitive emissions and fugitive dust) greater than 100 tons per year of any one of the pollutants, listed in Section II., B. of this

attachment.

III. Non-Attainment Review Requirements

- A. All stationary sources that require a non-attainment area review will be subject to the requirements listed in the following subparagraphs (1, 2, 3, and 4).
1. The source will meet all applicable emission requirements in the current New Hampshire State Implementation Plan (SIP).
 2. The source will meet all applicable Federal regulations, to include New Source Performance Standards (40 CFR 60) and National Emission Standards for Hazardous Air Pollutants (40 CFR 61).
 3. The source must meet the Reasonable Further Progress Requirements specified in the New Hampshire SIP; this means that at the time of start-up for the proposed source, the sum of the allowable emissions from all existing, new, and modified sources and the proposed source's emissions, must be sufficiently less than the total allowable emissions from the existing sources prior to the permit application.
 4. All other existing stationary sources owned or operated by the applicant (or any entity controlling, controlled by, or under common control with the applicant) in New Hampshire, are in compliance with, or under a formal compliance schedule to achieve the requirements of regulations adopted by the New Hampshire Air Resources Commission, and all applicable Federal regulations including the New Source Performance Standards (40 CFR 60) and the National Emission Standards for Hazardous Air Pollutants (40 CFR 61).
- B. Those stationary sources that require a non-attainment area review and the emissions rate for any one of the five pollutants allowed by New Hampshire regulations or permit conditions is equal to or exceeds 50 tons per year, or 1,000 pounds per day, or 100 pounds per hour and which will cause or contribute to a violation of an applicable National Ambient Air Quality Standard, will be subject to the additional requirements listed in the following subparagraphs (1, 2 and 3).
1. The Lowest Achievable Emission Rate (LAER) control technology which is available at the time of the completed permit application, will be applied to each applicable device within the source. The LAER will be determined by the Agency on a case-by-case basis without regard to economic or energy considerations.

2. Emission reductions, or "Offsets", from existing sources in the area of the proposed source have been obtained. For this offset provision the applicant must indicate, in writing, that finalized, legally binding arrangements have been made to provide reasonable progress toward attainment of the applicable National Ambient Air Quality Standard ("Reasonable Progress" means an offset greater than one-for-one tradeoff). The emission offset comparison will be based on the following stipulations:
 - a. Emission offsets will be determined by the Agency on a case-by-case basis with reductions required to exceed new emissions when all sources are operating at maximum production rate.
 - b. Only emission offsets for the same specific pollutant will be acceptable (e.g. Carbon Monoxide increased may not be offset against Total Suspended Particulate reductions).
 - c. Emission offsets do not apply to stationary sources which are subject to the provision of New Hampshire Air Resources Commission Regulation No. 22, "Prevention, Abatement and Control of Volatile Organic Compound Emissions".
 - d. The baseline to be used for determination of emission and air quality offsets will be the emission limitations listed in the New Hampshire State Implementation Plan which is in effect when the completed permit application is received by the Agency, or the actual emissions where no SIP limit applies.
 - (1) Emission offsets will generally be made on a pounds per hour basis when all devices involved in the emission offset calculations are operating at their maximum allowed production rate.
 - (2) If offsets are calculated on a tons per year basis, the baseline emissions for existing sources providing the offsets shall be calculated using the actual annual operating hours for the previous one or two year period (or other appropriate period if warranted by cyclical business conditions).
 - e. The emission offset credit involving an existing fuel combustion source will be the allowable emissions under the current State Implementation Plan for the type of fuel being burned at the time the

proposed source's completed application is received by the Agency. If the existing source commits to switch to a cleaner fuel at a future date, emission offset credit based on the allowable emissions for the fuel involved is not acceptable unless the permit provides a condition to require the use of a specified alternative control measure which would achieve the same degree of emission reduction should the source switch back to a dirtier fuel at some later date. The Agency must also be assured that adequate long-term supplies of the new fuel are available before approving emission offset credit for fuel switches.

- f. Offsets that exceed the requirement for reasonable progress toward attainment may be "Banked" (saved to provide offsets for a source seeking a permit in the future). Likewise, the owner of an existing source that reduces its own emissions may "Bank" any resulting reductions beyond those required by the State Implementation Plan, even if none of the offsets are applied immediately to a new source permit. Written verification from the Agency is necessary for the owner of the existing source to claim credit for the "Banked" reductions.
 - g. A new source may be credited with an emission offset (which may include "Banked" emission reductions) by shutting down an existing source or permanently curtailing production or operating hours below baseline levels provided that the work force to be affected has been notified of the proposed shutdown or curtailment.
 - h. If a source shutdown or a curtailment in production or operating hours occurs prior to the date that the proposed source's completed application is filed, emission offset credit (which may include "Banking") may be used only if the applicant can establish that the shutdown or curtailment in production occurred less than one year prior to the completed application, and that the proposed source is a replacement for the shutdown or curtailment. (The one year restriction will not apply to "Banked" emission credits).
 - i. The Agency will notify appropriate state and local officials of the proposed offset arrangements conducted by the applicant. This notification will be for informational purposes only.
3. The emission offsets that are approved by the Agency will be required to provide a positive net air quality benefit in the affected area. Since the air

quality impact for Sulfur Dioxide, Total Suspended Particulates, and Carbon Monoxide sources is site dependent, general areawide mass emission offsets are not appropriate. The emission offsets for those pollutants should be obtained from an existing source on the same premises or in the immediate vicinity of the new source, and the pollutants will disperse from substantially the same effective stack height. Otherwise, atmospheric simulation modeling shall be required to assure that the emission offsets provide a positive net air quality benefit.

- C. If a stationary source is constructed or modified in increments which individually do not emit more than 50 tons per year or 1,000 pounds per day, or 100 pounds per hour for any one of the five pollutants, and the increments have not been "offset" under the stipulations of this attachment, the allowable emissions from such increments granted a permit to construct after December 21, 1976, shall be added together. When the sum of these increments equals or exceeds 50 tons per year, 1,000 pounds per day, or 100 pounds per hour, the source will become subject to all of the requirements in this regulation. If the sum of the total emissions will cause or contribute to a violation of the National Ambient Air Quality Standard, then all of the provisions of this regulation may apply to each increment.
- D. Primary stationary sources which may have secondary emissions that will contribute to the primary source's overall emission rate will be subject to all of the provisions of this regulation. In this context, "secondary emissions" means emissions from new or existing sources which occur as a result of the construction and/or operation of a primary source that has a potential emission rate greater than 100 tons per year for any one of the five pollutants, but do not come from the source itself. The secondary emissions must be specified and must impact on the same general non-attainment area as the primary source. Examples of secondary emissions include emissions from ships or trains coming to a terminal facility, and emissions from off-site support devices which may be erected as a result of construction of the primary source.
- E. A stationary source which has an allowable emission rate equal to or exceeding 50 tons per year, or 1,000 pounds per day, or 100 pounds per hour for any one of the five pollutants, that locates in a "clean portion" of a non-attainment area shall be exempt from the requirements of Paragraph III., A. of this attachment, if the allowable emissions from the source would not cause the exceedance of the following Significance Levels, in the actual non-attainment area as of the new source start-up date. If the source would exceed these Significance Levels in the

portion of the designated non-attainment area where the National Ambient Air Quality Levels are actually violated, all requirements of this regulation will apply except emission offset criteria (Paragraph III., B., 2. of this attachment).

Significance Levels:

<u>Averaging Time</u>	<u>TSP</u>	<u>SO2</u>	<u>NO2</u>	<u>CO</u>
Annual	1.0 ug/m3	1.0 ug/m3	1.0 ug/m3	--
24-Hour	5.0 ug/m3	5.0 ug/m3	--	--
8-Hour	--	--	--	0.5 mg/m3
3-Hour	--	25.0 ug/m3	--	--
1-Hour	--	--	--	2.0 mg/m3

F. All stationary sources locating in attainment areas or unclassified areas (outside of designate non-attainment areas) which (1) have a potential emission rate greater than 100 tons per year for any one of the five pollutants and (2) have an allowable emission rate equal to or greater than 50 tons per year, or 1,000 pounds per day, or 100 pounds per hour of any one of the five pollutants, and which would exceed the Significance Levels in the previous paragraph at any locality that does not meet the National Ambient Air Quality Standards will be subject to all requirements of this attachment except emission offset criteria (Paragraph III., B., 2.).

G. Exemptions: The Agency may exempt the following stationary sources which have an allowable emission rate of 50 tons per year, 1,000 pounds per day, or 100 pounds per hour for any one of the five pollutants, from the requirements of emission offsets and positive air quality benefits (paragraph III., B., 2. and 3. in this attachment). The determination of exemption for these sources will be made on a case-by-case basis:

1. Temporary emission sources, such as pilot plants, portable facilities which will be relocated outside of a non-attainment area within a two year period of time, and emissions resulting from the construction phase of a new source.
2. Resource recovery sources burning municipal solid waste to provide more than 50% of the heat input for generating steam or electricity and sources which must switch fuels due to Federal regulations (e.g. lead in fuel requirements) or due to lack of adequate fuel supplies. The exemption may be granted for these sources only if:

- a. The applicant demonstrates that it made its best efforts to obtain sufficient offsets and that such efforts were unsuccessful.
- b. The applicant has secured all available emission offsets; and
- c. The applicant will continue to seek the necessary emission offsets and to apply them when they become available.

IV. Public Participation

- A. Within thirty (30) days after receipt of an application by the Agency which involves non-attainment area review, the Agency shall advise the applicant of any deficiency in the application or in the information submitted.
- B. Within one year after receipt of a complete application by the Agency, the Director shall make a final determination on the application. This involves performing the following actions in a timely manner:
 1. Make a preliminary determination whether a permit should be granted, granted with conditions, or denied.
 2. Make available in at least one location in the region in which the stationary source would be located, a copy of all materials submitted by the applicant, a copy of the preliminary determination along with copies of materials, if any, considered in making the preliminary determination.
 3. Send a copy of the preliminary determination to the applicant and to officials and agencies having cognizance over the location of the proposed stationary source to include: city and county executives, regional planning agencies, and the Federal land manager (if applicable).
 4. Provide for an opportunity for a public hearing for interested persons to appear and submit written or oral comments.
 5. Evaluate the public comments submitted and make a final determination on the permit application.
 6. Notify the applicant in writing of the final determination and make such notification available to the public.

V. Source Obligation

- A. Any owner or operator who constructs a new stationary source or modifies a stationary source not in accordance with the application submitted under these non-attainment area requirements, without applying for and receiving approval from the Director, shall be subject to appropriate enforcement action.
- B. A Temporary Permit shall become invalid if construction is not started within 18 months after final approval by the Director. If construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time, the Director may extend the 18 month period upon a satisfactory showing that the extension is justified.
- C. The Temporary Permit for construction shall not relieve any owner or operator of the responsibility to comply fully with applicable provisions of the New Hampshire State Implementation Plan and any other requirements under local, State, or Federal law.

VI. Conflict Resolution

In the event a conflict arises between the applicant and the Agency in terms of interpretations of requirements for non-attainment area review, the source document for resolution of the conflict will be the applicable section of the current State Implementation Plan.

Reproduced from
best available copy.



Regulation No. 17

PREVENTION, ABATEMENT AND CONTROL OF AIR CONTAMINANTS
FROM PROCESS, MANUFACTURING, SERVICE AND MISCELLANEOUS INDUSTRIES

I. Purpose

This regulation is adopted for the purpose of preventing, abating, and controlling air pollution caused by the emission of air contaminants into the ambient air from process, manufacturing, service and miscellaneous industries not specifically covered by other regulations.

II. Definitions

For the purpose of this regulation the following words and phrases shall have these meanings:

- A. Agency: State of New Hampshire Air Pollution Control Agency.
- B. Air Contaminants: Soot, cinders, ashes, dust, fumes, gas, mist (other than water), odor, toxic or radioactive material, particulate matter or any combination thereof.
- C. Ambient Air: The unconfined atmosphere which surrounds the earth.
- D. ASTM: American Society for Testing and Materials.
- E. Commission: State of New Hampshire Air Pollution Control Commission.
- F. Effects Factor: A value assigned to air contaminants in the form of a numerical modifier which when multiplied by emission rate, yields allowable emission.
- G. Emission: A release into the outdoor atmosphere of air contaminants.
- H. Fumes: Very small particles resulting from chemical reaction or from the condensation of vapors produced in combustion, distillation or sublimation. They are commonly metals or metallic oxides and their composition may be different from that of the parent material from which they originate.
- I. Exhaust and Ventilation System: Any system which removes and transports particulates, fumes, or any gaseous or gas borne products from their point of generation to the ambient air.
- J. Fuel Burning or Combustion Equipment or Device: Any furnace or boiler used for the burning of fuel or the emission of products of combustion or used in connection with any process which generates heat and may emit products of combustion.
- K. Particulate Matter: Any material except uncombined water which is or has been suspended in air or other gases and exists in a finely divided form as a liquid or solid at standard conditions.

L. Person: Any individual, partnership, firm, or co-partnership, association, syndicate, company, trust, corporation, department, bureau, agency, private or municipal corporation or any other entity recognized by law as the subject of rights and duties.

M. Process Weight: The total weight of all materials introduced into any source operation. Solid fuel used in the process will be considered as part of the process weight but liquid and gaseous fuels and uncombined water and combustion air will not.

N. Process weight rate:

1. For continuous or long-run, steady-state source operations, the total process weight for the entire period of continuous operation or for a typical portion thereof, divided by the number of hours of such period or part thereof.

2. For a cyclical or batch source operation, the total process weights for a period that covers a complete operation of an integral number of cycles, divided by the hours of actual process operation during such a period. When the nature of any process or operation or the design of any equipment is such as to permit more than one interpretation of this definition, the interpretation that results in the minimum value for allowable emission shall apply.

O. Stack: Any duct, passage, chimney or flue carrying combusted gases or products to the atmosphere.

P. Standard Conditions: A gas temperature of 68°F and a gas pressure of 14.7 lbs/square inch absolute.

Q. Process and Manufacturing Industries: All establishments engaged in the manufacture of goods and supplies, both finished and intermediate in nature, whose operations involve emissions to the ambient atmosphere from process or manufacturing equipment or machinery, directly or through stacks and exhaust and ventilating systems. Process and Manufacturing Industries include, but are not necessarily limited to, the following types of establishments:

1. Chemical process industries
2. Food and agricultural industries
3. Metallurgical industries
4. Mineral products industries
5. Pulp and paper industries
6. Petroleum refining and petrochemical operations
7. Wood processing

R. Service Industries: All establishments engaged in supplying services, whose operations involve emission to the ambient atmosphere from various equipment and apparatus, directly or through stacks and exhaust and ventilating systems. Examples of service establishments include, but are not necessarily limited to the following:

1. Dry cleaning establishments
2. Printing establishments
3. Commercial wholesale and retail establishments
4. Hospitals, schools and other institutional establishments
5. Hotels, restaurants, theaters, sports arenas and similar establishments

S. Gases: Formless fluids which, under standard conditions, occupy the space of enclosure and which can be changed to the liquid or solid state only by the combined effect of increased pressure and decreased temperature.

T. Nitric Acid Production Unit: Any facility producing weak nitric acid (30% to 70% in strength) by either pressure or atmospheric pressure process.

U. Sulfuric Acid Production Unit: Any facility producing sulfuric acid by the contact process by burning elemental sulfur, alkylation acid, hydrogen sulfide, organic sulfides and mercaptans, or acid sludge, but does not include facilities where conversion to sulfuric acid is utilized primarily as a means of preventing emissions to the atmosphere of sulfur dioxide or other sulfur compounds.

V. Opacity: The degree of optical density of any translucent medium; the common logarithm of the ratio of the initial intensity of light to the intensity of transmitted or reflected light.

III. Prohibition

A. No person shall cause, suffer, allow or permit the emission of particulate matter and fumes from any process, manufacturing, service or miscellaneous industry installation into the ambient air in excess of the amounts stipulated herein as follows:

1. All process, manufacturing, service or miscellaneous industry installations will comply with the requirements of Table 1 of the regulation. If the process, manufacturing, service or miscellaneous industry installation is emitting particulate matter which because of its toxicity is further regulated by an effect factor from Table 2, the required emissions as established by Table 1 are further reduced by the effects factor. When two or more elements or compounds are emitted from the same stack or chimney, the more stringent effects factor shall govern.

B. No person shall cause, suffer, allow or permit the emission of gases from any process, manufacturing, service or miscellaneous industry installation into the ambient air in excess of those quantities which are compatible with the achievement of ambient air quality standards for sulfur dioxide, nitrogen oxides, hydrocarbons and photochemical oxidants, as specified in New Hampshire Air Pollution Control Commission Regulation No. 11, and for other gases to be specified in future regulations.

C. No person shall cause, suffer, allow or permit the emission of acid tests from stationary industrial, commercial or residential sources in excess of those specified on Table 3 of this regulation. Table 3 specifies allowable

emissions of acid mist. Emission limits for other aerosol substances may be added to this table in the future.

IV. Exception

A. Those process or manufacturing installations, fuel burning or combustion equipment, or other sources of gaseous and particulate matter covered specifically by other regulations will be controlled by such other regulation or part thereof as applicable.

V. Testing

The Agency may require any person owning or operating a process, manufacturing service or miscellaneous industry installation to conduct or have conducted testing to determine compliance with this regulation. The Agency may, at its option, witness or conduct such tests. Such testing will be done at a reasonable time and all data obtained will be provided to both parties. A detailed test plan will be agreed upon by both parties prior to the start of testing.

A. Testing to determine the quantity of emission shall be undertaken by methods of measurement accepted by the Environmental Protection Agency or the New Hampshire Air Pollution Control Agency and at a point or points such as are representative of the actual emission into the atmosphere.

B. When the Agency conducts or has conducted such tests, the person owning or operating the manufacturing process or exhaust and ventilating system shall provide such sampling ports as might be required, power and water sources and safety equipment such as scaffolding, railings, ladders, etc., to comply with generally accepted good safety practices.

VI. Malfunction or Breakdown

In the event of a malfunction or breakdown of any component part of the air pollution control equipment, emissions in excess of those specified in this regulation may be permitted by the Agency for a period not to exceed 48 hours, provided that the Agency is notified expeditiously of the malfunction or breakdown.

The Commission may, upon request of the firm or owner or his authorized representative, or at the request of the Director of the Agency, grant an extension of time or temporary variance for a period longer than 48 hours.

VII. Notification

All persons owning or operating a process manufacturing, service, or miscellaneous industry installation shall notify the Agency of the name of the individual operating the installation, location of the installation, and size, make and type of air pollution control equipment, on forms supplied by the Agency, within 30 days of the effective date of this regulation. When such installations are modified by changes which significantly affect the emission characteristics of the installation, the owner or operator shall then renotify the Agency of these changes within 30 days after placing such modification into operation.

VIII. Compliance Schedule

Owners/operators of existing installations unable to comply with Section III above, must submit to the Agency, prior to December 31, 1972, a compliance schedule delineating the progressive steps required to bring these installations into compliance with this regulation, on or before December 31, 1973. Such progressive steps shall include, but are not limited to: date for submittal of engineering plans, proof of purchase of the required control equipment, and date of completion and operation of the modification or new installation. Compliance schedules shall be subject to the approval of the Director.

Table 1

Process Weight Rate (lbs/hr)	NEW INSTALLATIONS Emission Rate (lbs/hr)	EXISTING INSTALLATIONS Emission Rate (lbs/hr)
50	0.36	0.43
100	0.55	0.68
500	1.53	1.99
1,000	2.58	3.17
5,000	7.58	9.35
10,000	12.0	14.85
20,000	19.2	23.62
60,000	40.0	49.31
80,000	42.5	51.03
120,000	46.3	55.55
160,000	49.0	58.88
200,000	51.2	61.53
1,000,000	69.0	82.75
2,000,000	77.6	93.11

Interpolation of the data in Table 1 for the process weight rates up to 60,000 lbs/hr. shall be accomplished by the use of the equations:

$$E = 4.10 P^{0.67} \quad P \leq 30 \text{ tons/hr} - \text{New Installations}$$

$$E = 5.05 P^{0.67} \quad P \leq 30 \text{ tons/hr} - \text{Existing Installations}$$

and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lbs/hr. shall be accomplished by use of the equations:

$$E = 55.0 P^{0.11} - 40 \quad P > 30 \text{ tons/hr} - \text{New Installations}$$

$$E = 66.0 P^{0.11} - 48 \quad P > 30 \text{ tons/hr} - \text{Existing Installations}$$

Where:

E = Emissions in pounds per hour

P = Process Weight Rate in tons per hour

Table 2

EFFECTS FACTOR FOR PARTICULATE MATTER

MATERIAL

A. All material not specifically listed here 1.0

B. Elements and their compounds of the basic elements

Antimony	0.9
Arsenic	0.9
Barium	0.9
Cadmium	0.2
Chromium	0.2
Cobalt	0.9
Copper	0.2
Hafnium	0.9
Lead - Lead arsenate	0.3
Lithium hydride	0.04
Phosphorus	0.2
Selenium	0.2
Silver	0.1
Tellurium	0.2
Thallium	0.2
Uranium (soluble)	0.1
Uranium (insoluble)	0.4
Vanadium	0.2
Zinc Oxide	0.8

Beryllium - Not more than 10 grams of beryllium over a 24-hour period.
The operator may elect to meet the ambient air concentration of 0.01 ug/m³ averaged over a 30-day period and measured in the vicinity of the source.

Mercury - Not more than 2300 grams per 24-hour period. The provisions of this subpart are applicable to those stationary sources which process mercury ore or recover mercury and to those which use mercury chloralkale cells to produce chlorine gas and alkali metal hydroxide.

C. Mineral material and miscellaneous substances

Silica (crystalline) 0.4
Asbestos - As specified by the EPA in Vol. 38, #66, Federal Register, Friday, April 6, 1973.

Table 3

LIMITATION OF EMISSIONS OF ACID MISTS

(Allowable Stack Gas Concentrations in Milligrams Per Dry Cubic Meter
at Standard Conditions)

Sulfuric Acid Mist (except as provided in note 1 below)	35
Nitric Acid Mist and/or Vapor (except as provided in Note 2 below)	70
Hydrochloric Acid Mist and/or Vapor	210
Phosphoric Acid Mist and/or Vapor	3

Note 1. On or after the effective date of this part no owner or operator of a sulfuric acid production unit shall discharge or cause the discharge into the atmosphere of sulfur dioxide in excess of 4 lbs. per ton of acid produced (2kg. per metric ton) maximum two-hour average.

Note 2. On or after the effective date of this part no owner or operator of a Nitric Acid Production Unit shall discharge or cause to be discharged into the atmosphere nitrogen oxides which are in excess of 3 lbs. per ton of acid produced (1.5 kg. per metric ton) maximum two-hour average expressed as NO₂ and/or 10% opacity or greater.

Regulation No. 18

REQUIREMENT FOR RECORD KEEPING AT
FACILITIES WHICH DISCHARGE AIR CONTAMINANTS

I. Purpose

This regulation is adopted for the purpose of requiring that records be kept at facilities which discharge air contaminants such that the quantities of such contaminants may be readily calculated or estimated.

II. Definitions

For the purpose of this subtitle, the following words or phrases have these meanings:

A. Air Contaminant: Soot, cinders, ashes, dust, fume, gas, mist (other than water), odor, toxic or radioactive material, particulate matter, or any combination thereof.

B. Facility: Any establishment, residential, commercial, institutional, or industrial, which discharges air contaminants to the ambient atmosphere through stacks, chimneys, ventilation or exhaust ducts, or any other opening communicating with the ambient atmosphere.

C. Person: Any individual, partnership, firm or co-partnership, association, syndicate, company, trust, corporation, department, bureau, agency, private or municipal corporation, or any other entity recognized by law as the subject of rights and duties.

D. Records: Organized information pertinent to the discharge of air contaminants, of a quality consistent with good business practice, and as defined further under III herein.

III. Requirement

The following records are required to be kept at each facility which discharges air contaminants to the ambient atmosphere:

A. Fuel Utilization. Monthly records of fuel consumption are to be kept. Fuel type, sulfur content (percent by weight), and the percent ash content are to be recorded for each monthly entry. If more than one type of fuel is used, data on each fuel are to be recorded separately. Facilities which utilize #1 or #2 fuel oils, gas, or electrical energy are exempted from this requirement.

If a facility operates fuel burning equipment which discharges air contaminants through more than one discharge point, data are to be recorded as to the distribution of the fuel utilization among such discharge points. Such distribution may be estimated, but estimates must be based on reliable operational data, such as boiler loading records.

Records must also be kept of hours of operation corresponding to the utilization and distribution of fuels.

B. Process Operations. Monthly records are to be kept regarding the total quantities of raw materials, excluding gaseous and liquid fuels and combustion air charged to a process (process weight). The number of hours of operation corresponding to the process weight quantities must also be recorded.

If a facility operates more than one process, such records must be kept for each process.

If a facility operates one or more processes which discharge air contaminants through more than one discharge point, data are to be recorded as to the distribution of the process weights or discharges among such discharge points, whichever is applicable. Such distribution may be estimated, but estimates must be based on reliable operational information.

C. Emission Data. If a facility operates instruments or equipment which measures or otherwise relates to emissions of air contaminants, such data are to be recorded on a regular basis. The number of hours of operation of such instruments or equipment is to be recorded along with the corresponding hours of operation of the process or fuel burning equipment on which the instruments or equipment are installed.

If the measurements consist of concentrations of contaminants (e.g., parts per million by volume of sulfur dioxide), these are to be converted to actual emissions (e.g., pounds per hour) by application of appropriate operational information (such as volume flow). Such parameters may be estimated but must be based on reliable operational information.

D. Availability of Records. Any person operating a facility, except those exempted under III.A. above, which discharges air contaminants into the ambient atmosphere, may be required to make available to the New Hampshire Air Pollution Control Agency information as described in paragraphs III.A., III.B., and III.C. above, annually, and shall be required to make such information available at such other times as the Agency shall deem necessary. The Agency shall have access to all such records kept from the effective date of this regulation.

All emission data, private or agency sources shall be available to the public and shall be correlated with applicable emission limitations.

E. Compatibility with Permit System. The record-keeping required by this regulation is to be considered a separate and independent requirement from any information to be required by any permit system adopted by the New Hampshire Air Pollution Control Commission. However, certain consistencies in information format may be desirable. These will be specified at such times as the permit system becomes effective.

IV. Exception

The New Hampshire Air Pollution Control Commission may except any facility from the requirements of this regulation, which, by virtue of its size and

operation, is not expected to contribute markedly to the discharge of contaminants into the atmosphere and/or whose discharges (e.g., from fuel combustion) are readily and accurately predictable from other means (e.g., degree-day information, etc.).

V. Effective Date

The effective date of this regulation shall be January 1, 1973.

Regulation No. 19

REQUIRED ACTION: EMERGENCY EPISODE PROCEDURE

I. Purpose

This regulation is adopted for the purpose of requiring that specific steps be taken at facilities which discharge air contaminants into the ambient atmosphere such that the quantities of such contaminants are reduced or eliminated during air pollution emergency episodes.

II. Definitions

For the purpose of this subtitle, the following words or phrases shall have these meanings:

A. Air Contaminant: Soot, cinders, ashes, dust, fume, gas, mist (other than water), odor, toxic or radioactive material, particulate matter, or any combination thereof.

B. Facility: Any establishment, residential, commercial, institutional or industrial which discharges air contaminants to the ambient atmosphere through stacks, chimneys, ventilation or exhaust ducts, or any other opening communicating with the ambient atmosphere.

C. Person: Any individual, partnership, firm or co-partnership, association, syndicate, company, trust, corporation, department, bureau, agency, private or municipal corporation, or any other entity recognized by law as the subject of rights and duties.

D. Air Pollution Emergency Episode: An occurrence of atmospheric stagnation whereby natural ventilation is restricted, allowing for rapid accumulation of pollutant concentrations at the lowest levels in the atmosphere, thereby endangering the health and welfare of the citizens in the area.

E. Forecast Status: An internal watch by the Air Pollution Control Agency, activated by a National Weather Service advisory that an Atmospheric Stagnation Advisory is in effect, or by an equivalent local forecast of stagnant atmospheric conditions.

F. Alert Status: An alert will be declared when any one of the following levels is reached at any sampling station:

SO₂ - 0.3 ppm (800 ug/m³), 24-hour average

or Particulate - 3.0 COHs, or 375 ug/m³ Hi-Volume Suspended Particulate, 24-hour sample

or SO₂ and Particulate Combined - product of SO₂ ppm, 24-hour average and COHs, equal to 0.32, or product of SO₂ ug/m³, 24-hour average, and Particulate ug/m³, 24-hour average equal to 65 x 10³

and Meteorological conditions are such that this condition can be expected to continue for twelve (12) or more hours or increase unless control actions are taken.

G. Warning Status: A warning will be declared when any one of the following levels is reached at any sampling station:

SO₂ - 0.6 ppm (1600 ug/m³), 24-hour average

or Particulate - 5.0 COHs, or 675 ug/m³ Hi Volume Suspended Particulate, 24-hour sample

or SO₂ and Particulate Combined - product of SO₂ ppm, 24-hour average and COHs, equal to 0.8, or product of SO₂ ug/m³, 24-hour average, and Particulate ug/m³, 24-hour average equal to 261×10^3

and Meteorological conditions are such that this condition can be expected to continue for twelve (12) or more hours or increase unless control actions are taken.

H. Emergency Status: When the concentration(s) for the Warning Status have been exceeded and are continuing to increase, or if the Director of the New Hampshire Air Pollution Control Agency determines that, because of meteorological and other factors, the concentrations will continue to increase.

I. Termination: Once declared, any status reached by application of the alert, warning and emergency criteria will remain in effect until the criteria for that status are no longer met. At such time the next lower status will be assumed.

III. Requirement

The following steps shall be taken by any facility which discharges air contaminants into the ambient atmosphere, and by those with whom preplanned emission reduction strategy has been established (Ref. Section III-E) for the various status levels defined in II-E through II-I.

A. Forecast Status: Facilities with whom preplanned emission reduction strategy has been established shall, upon notification by the New Hampshire Air Pollution Control Agency, inspect all equipment to obtain best operation and prepare for curtailment of operation.

B. Alert Status:

1. All persons holding open burning permits shall cease such burning and consider such permit suspended until further notice.

2. Private and Commercial Incinerators shall be operated only between 12 noon and 4 p.m.

3. Sootblowing, firecleaning, etc., shall be kept to a minimum and when necessary shall be accomplished only between 12 noon and 4 p.m.

4. All coal or oil fired process steam generating plants with annual emissions greater than 100 tons shall make maximum use of fuels having the lowest available ash and sulfur content. All sources regardless of size shall prepare to initiate a plan of action to minimize production of pollutants in case an emergency is called.

5. Coal and oil fired electric power generating stations shall convert to fuels having the lowest available ash and sulfur content, and shall prepare to place all possible electric power requirements with generating facilities outside of the Alert area.

6. Major facilities (such as, but not limited to, primary metal industry, chemical industries, mineral processing industries, paper and allied products, and grain industry) having an emission rate in excess of 100 tons annually shall prepare to make substantial reductions in emissions in accordance with preplanned strategy.

C. Warning Status: All provisions of the Alert Status continue and:

1. Coal and oil fired electric power generating stations shall place all possible electric power requirements with generating facilities outside of Warning Area.

2. Upon notification by the Director, all coal or oil fired process steam generating plants with emissions greater than 100 tons annually shall reduce power output in accordance with preplanned strategy.

3. Incinerators shall not operate, except in instances agreed to in writing by the Director of the Agency.

4. Major facilities (such as, but not limited to, primary metal industry, chemical industries, mineral processing industries, paper and allied products, and grain industry) having an emission rate in excess of 100 tons annually shall make a maximum reduction in emissions in accordance with preplanned strategy and, if considered necessary by the Director of the Agency, shall postpone or reschedule production operations.

5. All facilities having an emission rate less than 100 tons annually shall reduce emissions as directed by the Agency, and if considered necessary, shall postpone or reschedule production operations.

D. Emergency Status: All provisions of Warning Status continue and:

1. Mining and quarrying of non-metallic materials and asphalt plant operations shall cease operations.

2. All construction projects, except those exempted by the Director of the Agency, shall cease operations.

3. All manufacturing establishments, except those operating under an air pollution emergency plan, shall cease operations.

4. All wholesale trade establishments except wholesale druggists and surgical supply houses, shall cease operations.

5. All governmental offices and other governmental functions, except those determined to be vital for public safety and welfare and the enforcement of this regulation, shall cease operations.

6. Except for food outlets, pharmacies, and retail surgical supply outlets, all retail establishments, banks, credit house, insurance offices, securities and commodities brokers, and real estate offices, shall cease operations.

7. Wholesale and retail laundries, dry-cleaners, dyers, photographic studios, beauty shops, barber shops, and shoe repair shops, shall cease operations.

8. Advertising offices, consumer credit, adjustment and collection agencies, duplicating, blueprinting, photocopying, stenographic services, equipment rental and commercial testing laboratories shall cease operations.

9. Automobile repair, automobile services, and garages shall close, except for the sale and distribution of petroleum products.

10. Establishments which render amusement and recreational services, including indoor and outdoor motion picture theaters, shall cease operations.

11. Elementary and secondary schools, colleges, universities, professional schools, junior colleges, vocational schools and public and private libraries shall close.

12. The use of motor vehicles shall be restricted except in extreme emergency and with the approval of the local or state police.

13. In addition to the measures described in paragraphs 1 through 12 above all other commercial and manufacturing establishments not specifically mentioned must institute such actions as will result in maximum reduction of air pollutants from their operation by ceasing, curtailing, or postponing operations which emit air pollutants to the extent possible without causing injury to persons or damage to equipment.

E. Source Curtailment

All air contaminant sources having annual emissions greater than 100 tons per year of particulates or sulfur oxides must submit a preplanned abatement strategy plan to the Agency no later than July 1, 1972. If the abatement plan is not submitted or is unacceptable, the Director of the New Hampshire Air Pollution Control Agency will serve notice to such sources that a strategy will be prepared by the Agency without further referral to the source.

NEW HAMPSHIRE AIR POLLUTION CONTROL COMMISSION
REGULATION NO. 22

PREVENTION, ABATEMENT, AND CONTROL OF VOLATILE
ORGANIC COMPOUND EMISSIONS

I. Purpose

This regulation is adopted for the purpose of preventing, abating, and controlling Air Pollution caused by volatile organic compound emissions from stationary sources.

II. Definitions

For the purpose of this regulation the following words and phrases shall have these meanings:

1. Agency: State of New Hampshire Air Pollution Control Agency.
2. Ambient Air: The unconfined atmosphere which surrounds the earth.
3. Air Pollution Control Equipment: Any process used, as a result of regulations, in the control of air pollution; or any process which controls air pollution but is not vital to the production of normal product or normal operations.
4. Cleaning Solvent: Those volatile organic compounds used in the liquid or vapor form for the removal of soils from fibrous, non-fibrous, woven, non-woven, metallic, and non-metallic articles, materials or surfaces.
5. Commission: State of New Hampshire Air Pollution Control Commission.
6. Device: Any burner, furnace, machine, equipment, or article which, in the opinion of the Air Pollution Control Agency, contributes or may contribute to the pollution of the air.
7. Emission: A release of volatile organic compounds into the ambient air.
8. Equivalent: The equating or converting, for compliance purposes, of actual stack emissions to pounds per gallon of coating delivered to the applicator.
9. Expeditionously as Practicable: The compliance time needed for the engineering, design, ordering, contracting, installation, and startup of control equipment or process changes, while considering special individual problems

encountered in the location and operation of such equipment or changes. Economic considerations are of secondary importance, and may justify additional time for compliance only if such additional time would result in major cost savings. Additional time for compliance with regulatory requirements which are aimed to achieve primary air quality standards can not be approved on the basis that the cost of compliance outweighs the benefits of compliance

10. Person: Any individual, partnership, firm, or co-partnership, association, company, trust, corporation, department, bureau, agency, private or municipal corporation or any political subdivision of the State, the United States or political subdivisions or agencies thereof, or any entity recognized by law as the subject of rights and duties.

11. Potential to Emit: The capability at maximum rated capacity to emit a pollutant in the absence of air pollution control equipment.

Annual potential to emit is based on the maximum annual rated capacity of the source unless the source is subject to enforceable permit conditions which limit the annual hours of operation and/or the operating rate. Enforceable permit conditions on the type or amount of materials combusted or processed may be used in determining the potential emission rate of a source.

12. Process: Any operation which combines devices, equipment, raw materials, utilities, and manpower for the production of goods, services, energy, pollution control or other purposes.

13. Process Category: A group of similar processes (e.g. refining, can coating, solvent metal cleaning, paper coating).

14. Stationary Source: Any building, structure, facility, installation or other operation not identified as a mobile or indirect source which emits or may emit any air pollutant. A stationary source may contain a group of devices located on one or more contiguous or adjacent properties owned or operated by the same person.

15. Standard Conditions: A temperature of 68 degrees F (20 degrees C) and a pressure of 14.7 lbs/square inch absolute, or 29.92 inches (760 millimeters) of mercury.

16. Volatile Organic Compounds (VOC): Any chemical compound or mixture of chemical compounds containing the element of carbon (excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbonates and carbides and ammonium carbonate), and having vapor pressures of 0.1 mm of mercury or greater at standard conditions; VOC's include,

but are not limited to, petroleum crudes, petroleum fractions, petrochemicals, solvents, diluents, thinners, and degreasing agents, and propellants.

III. Exemptions

Methane, ethane, trichlorotrifluorethane (or Freon 113), 1, 1, 1-Trichloroethane (Methyl Chloroform), and Methylene Chloride are not subject to the VOC prohibitions listed in Section V of this regulation.

IV. Limits to Applicability

1. Stationary sources with any of the following process categories are subject to Section V requirements if the combined potential to emit for all operations included in one particular process category equals or exceeds 100 tons per year of VOC:
 - a. Can coating
 - b. Paper, fabric, film, and foil coating
 - c. Vinyl coating
 - d. Metal furniture coating
 - e. Magnet wire insulation coating
2. Stationary sources with any of the following process categories are subject to Section V requirements if the combined potential to emit, based on actual process throughput, for all operations covered by one particular process category, equals or exceeds 100 tons per year of VOC:
 - a. Fixed-roof tank VOC storage
 - b. Tank truck gasoline loading terminals
 - c. Petroleum refineries
3. Stationary sources performing solvent metal cleaning are subject to Section V requirements if the combined potential to emit, based on total solvents purchased for all solvent metal cleaning within that facility, equals or exceeds 100 tons per year of VOC.
4. Stationary sources may be exempt from Section V requirements by limiting the operating hours and/or the operating rates through permit conditions, so that the potential to emit, for a specific process category, would be less than 100 tons per year of VOC.

5. Stationary sources not specifically included in Section V are not subject to the control requirements of that section.
6. The use of cut-back asphalt is subject to Section V requirements regardless of the amount of asphalt purchased or throughput.

NOTE: Additional process categories will be proposed for inclusion in this section at later dates.

V. Volatile Organic Compound (VOC) Prohibition for Process Categories

No person shall cause, suffer, allow, or permit the emission of the emission of volatile organic compounds (VOC) from any process described in this section, unless such emissions meet all the requirements stipulated in this regulation. The "Bubble Concept" as described in Regulation 16, may be used to achieve compliance with the emission limitation and/or control requirements of Section V.

1. Can Coating - those processes involved in the production of coated metal cans are limited to emissions levels no greater than the equivalent of:
 - a. 2.8 lb VOC/gallon (0.34 kg/l) of coating, excluding water, delivered to the applicator, for use in interior and exterior sheet base-coating and over-varnish, or for two-piece can exterior basecoat and over-varnish.
 - b. 4.2 lb VOC/gallon (0.51 kg/l) of coating, excluding water, delivered to the coating applicator for use in two and three-piece can interior body spray, and two-piece can exterior end (spray or roll) coating.
 - c. 5.5 lb VOC/gallon (0.66 kg/l) of coating, excluding water, delivered to the coating applicator for use in three-piece can side-seam spray operations.
 - d. 3.7 lb VOC/gallon (.44 kg/l) of coating, excluding water, delivered to the coating applicator for use in end sealing compound operations.
2. Paper, Fabric, Film and Foil Coating - those processes applying any type of coating (including acrylics, urethanes, rubbers, vinyls, polyesters, silicones, adhesives, decorations and others) to any woven or non-woven, fibrous or non-fibrous substrate (including glass matting, plastic film, ribbon, magnetic tapes, and others) are limited to emission levels no greater than the equivalent of:

- a. 2.9 lb VOC/gallon (0.35 kg/l) of coating, excluding water, delivered to the coating applicator of the coating process.

NOTE: This process category excludes emissions from all printing and vinyl plastisol coating operations.

3. Vinyl Top Coating - those processes applying a protective or decorative coating or printing onto vinyl coated fabric or vinyl sheets, are limited to emissions levels no greater than the equivalent of:

- a. 3.8 lb VOC/gallon (0.45 kg/l) of coating, excluding water, delivered to the coating applicator of the coating process.

4. Metal Furniture Coating - those processes applying coatings onto metal furniture or parts of metal furniture, (including tables, benches, chairs, file cabinets, waste baskets, etc.) are limited to emission levels no greater than the equivalent of:

- a. 3.0 lb VOC/gallon (0.35 kg/l) of coating, excluding water, applied to the coating applicator of the coating line.

5. Magnet Wire Insulation Coating - those processes applying a coating of electrically insulating varnish or enamel onto copper or aluminum wire or foil, are limited to emission levels no greater than the equivalent of:

- a. 1.7 lb VOC/gallon (0.20 kg/l) of coating, excluding water, delivered to the coating applicator of the coating line.

6. Fixed-Roof Tank VOC Storage - those above-ground, vertical, fixed roof tanks which store VOC's with a true vapor pressure greater than 1.52 psia (10.5 kilopascals) at 60 degrees F (as determined by methods described in API Bulletin 2517), and which have a capacity greater than 40,000 gallons (151,412 liters) must use the following control method:

- a. Retrofit tank with an internal floating roof and approved closure seals, and
- b. Maintain such seals free from visible holes and tears, and
- c. Equip all openings with cover, seal, or lid and to be kept closed at all times except when in actual use. Automatic bleeder and rim vents must operate as intended and designed.

7. Tank Truck Gasoline Loading Terminals - those operations involved in the loading of gasolines for further distribution to bulk gasoline plants and service stations, and having a throughput greater than 20,000 gallons/day (76,000 l/day) of gasoline must use the following control method:
 - a. VOC vapor emitted from tank truck loading operations must be collected and controlled by a device limiting total VOC emissions from the controlled operations to 80 mg of VOC per liter of gasoline loaded.
8. Petroleum Refineries - those processes involved in the production of gasoline, kerosene, distillate and residual fuels, or other products through distillation, cracking, extraction, or reforming of petroleum derivatives, must control the emissions from vacuum producing systems, waste water separators, and process unit turnarounds using the methods specified below:
 - a. Vacuum producing system emissions must be:
 - i. piped to a firebox or incinerator, or
 - ii. compressed and added to a refinery fuel gas.
 - b. Waste water separators must be covered and sealed at all times except during maintenance and repair.
 - c. Process unit turnarounds must provide for the depressurization of a process unit or vessel to a vapor recovery system, flare, or firebox, until internal pressures are less than 19.7 psia (136 kilopascals).
9. Cutback Asphalt - asphalt which has been liquified by blending with petroleum solvents, is prohibited for use in the paving and maintenance of public roads and highways during the months of June through September with the following exceptions:
 - a. The use of medium curing cutback asphalts solely as a penetrating primecoat for aggregate bases prior to paving.
 - b. The use of medium curing cutback asphalts for the manufacture of long-period storage or stockpiling of patching mixes used in pavement maintenance.
 - c. The use of cutback asphalts when the forecast of the high temperature for the 24-hour period following application is below 50 degrees F (10 degrees C).
 - d. The use of cutback asphalt for non-pavement protect-

ive coatings, roofing or waterproofing.

10. Solvent Metal Cleaning - those processes using cold cleaners, open-top vapor degreasers and conveyorized degreasers for the purpose of removing soils from metal surfaces, must use the applicable control methods listed in "Guidelines for Solvent Metal Cleaning Control Systems", as provided by the Agency. The Guidelines apply as follows:
 - a. Cold Cleaners - batch solvent metal cleaning processes, which maintain the cleaning solvent below its boiling point, must be controlled using the control system for cold cleaning listed in Section 1.
 - b. Open Top Degreasers - batch solvent metal cleaning processes, which condense hot cleaning solvent vapors on the colder metal parts, must be controlled using the control systems for open top vapor degreasing listed in Section 2. Open top vapor degreasers with an open surface area less than 10.8 square feet (1 square meter) are not subject to the refrigerated chiller or carbon adsorption system requirements of Section 2.
 - c. Conveyorized Degreasing - continuous solvent metal cleaning processes, using either cold or vaporized cleaning solvents, must be controlled using the control systems for conveyorized degreasing listed in Section 3. Conveyorized degreasers with an air/vapor interface less than 21.6 square feet (2.0 square meters) are not subject to the refrigerated chiller, carbon adsorption, or equivalent control requirements listed in Section 3.

NOTE: Additional process categories will be proposed for inclusion in this section at later dates.

VI. Alternate Control Methods

The Agency may approve control methods which are different from those specified in Section V of this regulation, provided that such an alternate control method will result in a reduction in VOC emissions equal to the reduction resulting from the control methods required by Section V.

VII. Permit Requirements

1. Persons operating processes which emit VOC's must apply for a permit to operate each of those processes in accordance with New Hampshire Air Pollution Control Commission Regulation No. 16.
2. Processes which emit VOC's but which are exempted by Sec-

tions III or IV from any of the emission or control requirements in this regulation, or not specifically included in Section V, are, nevertheless, subject to the above permit application requirement.

3. Processes emitting VOC's and operating under permits issued by the Agency prior to the adoption of this regulation, hereby have those permits cancelled and are, therefore, subject to the permit application requirement of this section.
4. All permit applications must be on forms provided by the Agency, and must be submitted to the Agency no later than September 1, 1979, unless such a permit application is part of a compliance schedule submittal.
5. Permit applications, after July 1, 1979, for processes with the potential to emit 100 tons per year or more of VOC are subject to additional requirements listed in Regulation No. 16.
6. Exception: Persons (towns, cities, and the New Hampshire Department of Public Works and Highways) using cutback asphalt, are not subject to the permit requirements of this section.

VIII. Compliance Schedule

1. Persons operating any process subject to the requirements of Section V must develop a schedule for bringing the affected process into compliance with this regulation. The compliance schedule must show the method by which compliance will be achieved and also the major increments of progress toward compliance, including:
 - a. Completion of engineering
 - b. Awarding of contract
 - c. Initiation of construction
 - d. Completion of construction
 - e. Final compliance with regulation emission and/or control requirements
2. Compliance schedules must be submitted to and approved by the Agency within six months of the effective date for the affected process.
3. The effective dates for each process category in this regulation are as follows:

<u>Process Category</u>	<u>Effective Date</u>
Can Coating	July 1, 1979
Paper Fabric, Film & Foil Coating	"
Vinyl Top Coating	"
Metal Furniture Coating	"
Magnet Wire Insulation Coating	"
Fixed Roof Tank VOC-Storage	"
Tank Truck Gasoline Loading Terminals	"
Petroleum Refineries	"
Cutback Asphalt	"
Solvent Metal Cleaning	"
4. Compliance schedules must include the necessary permit application in accordance with New Hampshire Air Pollution Control Commission Regulation No. 16, and are subject to final approval by the Agency.	
5. The Agency will evaluate all compliance schedules, and approve only those schedules which meet the requirements of this regulation as expeditiously as practicable (see Section II for definition), but not later than December 31, 1982.	
6. Persons may apply for an extension beyond December 31, 1982, provided they show the Agency, and the Commission, in detail, that such an extension is necessary because:	
a. It is physically impossible for the process to comply prior to December 31, 1982, or	
b. By allowing additional time, innovative technology will be applied with resulting emission reductions significantly greater than those provided by Section V of this regulation, or	
c. Additional time is necessary to allow for the development of suitable low solvent systems rather than apply add-on control systems, or	
d. The process is part of a statewide or multistate program for prioritizing the sequence of installing controls at a number of similar operations owned or controlled by the same company, and the compliance program is as expeditious as practicable.	
7. Compliance date extensions may be granted only by the Commission and must meet the requirements of this regulation as expeditiously as practicable. In no case may a compliance date extension be later than December 31, 1987.	
8. Exception: Persons (towns, cities, and the New Hampshire Department of Public Works and Highways using cutback as-	

phalt, are not subject to the compliance schedule requirements of this section, but must report to the Agency in January of each year the total cutback asphalt usage during the previous calendar year. The reporting of cutback asphalt usage will begin in January of 1980 and must include the usage of cutback asphalt during 1978 and 1979. All reports must be submitted on forms obtained from the Agency.

NOTE: Additional process categories will be proposed for inclusion in this section at later dates.

IX. Testing

The Agency may require any person owning or operating a process subject to the requirements of this regulation, to conduct or have conducted tests for determining compliance with Section V of this regulation.

All tests performed for compliance purposes, must follow a detailed test plan which has been approved by the Agency 30 days prior to testing. The test plan must identify at a minimum:

1. process operating conditions during the test,
2. test methods and procedures,
3. test equipment, and sampling sites.

The Agency may, at its option, witness all compliance tests.

Testing for compliance with Section V must use methods of measurement approved by the Environmental Protection Agency or the New Hampshire Air Pollution Control Agency.

The owner or operator of a process to be tested, must provide the necessary sampling parts, power, water, safety equipment, scaffolding, railings, and ladders, etc., and assure that test conditions will generally meet good safety practices.

Compliance with this regulation may also be determined, where appropriate, by material balance inventory techniques as approved by the Agency.

X. Malfunction or Breakdown

Any unavoidable malfunction, breakdown, or upset of any process and its associated control equipment and related parts which result in emissions greater than those allowable by sections of this regulation must be reported to this agency within eight (8) working hours of the occurrence.

The Agency may allow a temporary variance, for a period no longer than 48 hours for those excessive VOC emissions resulting from unavoidable breakdown or malfunction, provided the Agency has been notified within 8 working hours of the occurrence.

The Commission may, upon request of the owner or his authorized representative, or at the request of the Director of the Agency, grant an extension of time or temporary variance for a period longer than 48 hours.

XI. Record Keeping

Any owner or operator of a VOC emitting process, must maintain those records necessary to show continued compliance with Section V, the permit conditions associated with the emitting process, and to meet the requirements of Regulation No. 18.

GUIDELINES FOR SOLVENT METAL CLEANING CONTROL SYSTEMS

Section 1

CONTROL SYSTEM FOR COLD CLEANING

Control Equipment:

1. Cover
2. Facility for draining cleaned parts
3. Permanent, conspicuous label, summarizing the operating requirements

Operating Requirements:

1. Do not dispose of waste solvent or transfer it to another party, such that greater than 20 percent of the waste (by weight) can evaporate into the atmosphere. Store waste solvent only in covered containers.
2. Close degreaser cover whenever not handling parts in the cleaner.
3. Drain cleaned parts for at least 15 seconds or until dripping ceases.

CONTROL SYSTEMS FOR OPEN TOP VAPOR DEGREASERS

Control System A

Control Equipment:

1. Cover that can be opened and closed easily without disturbing the vapor zone.

Operating Requirements:

1. Keep cover closed at all times except when processing work loads through the degreaser.
2. Minimize solvent carry-out by the following measures:
 - a. Rack parts to allow full drainage.
 - b. Move parts in and out of the degreaser at less than

3.3 m/min. (11 ft/min).

- c. Degrease the work load in the vapor zone at least 30 sec. or until condensation ceases.
 - d. Tip out any pools of solvent on the cleaned parts before removal.
 - e. Allow parts to dry within the freeboard zone of the degreaser for at least 15 sec. or until visually dry.
- 3. Do not degrease porous or absorbent materials, such as cloth, leather, wood or rope.
 - 4. Work loads should not occupy more than half of the degreaser's open top area.
 - 5. The vapor level should not drop more than 10 cm (4 in) when the work load enters the vapor zone.
 - 6. Never spray above the vapor level.
 - 7. Repair solvent leaks immediately, or shutdown the degreaser.
 - 8. Do not dispose of waste solvent or transfer it to another party such that greater than 20 percent of the waste (by weight) will evaporate into the atmosphere. Store waste solvent only in closed containers.
 - 9. Exhaust ventilation should not exceed 20 cubic meters/min per square meter (65 cfm per square foot) of degreaser open area, unless necessary to meet OSHA requirements.
 - 10. Water should not be visually detectable in solvent exiting the water separator.

Control System B

Control Equipment:

- 1. Cover (same as in System A).
- 2. Safety Switches
 - a. A device preventing heat input to the sump when condenser coolant is not circulating or too warm.
 - b. A device preventing spraying if the vapor level drops over 4 inches (10 cm).
 - c. A device limiting the upper vapor level.

3. Major Control Device:

Either:

- a. Freeboard ratio greater than or equal to 0.75, and if the degreaser opening is > 1 square meter (10 square feet), the cover must be powered, or mechanically assisted,
 - b. Refrigerated chiller,
 - c. Enclosed design (cover or door opens only when the dry part is actually entering or exiting the degreaser),
 - d. Carbon adsorption system, with ventilation ≥ 15 cubic meters per min per square meter (50 cfm/square foot) of air/vapor area (when cover is open), and exhausting < 25 ppm solvent averaged over one complete adsorption cycle, or
 - e. Control system, demonstrated to have control efficiency, equivalent to or better than any of the above.
4. Permanent, conspicuous label, summarizing operating procedures #1 to #6.

Operating Requirements:

Same as in System A

Section 3

CONTROL SYSTEMS FOR CONVEYORIZED DEGREASERS

Control System A

Control Equipment: None

Operating Requirements:

1. Exhaust ventilation should not exceed 20 cubic meters/min per square meter (65 cfm per square foot) of degreaser opening, unless necessary to meet OSHA requirements. Work Ventilation fans should not be used near the degreaser opening place fans should not be used near the degreaser opening.
2. Minimize carry-out emissions by:
 - a. Racking parts for best drainage.
 - b. Maintaining vertical conveyor speed at < 3.3 m/min (11 ft/min).
3. Do not dispose of waste solvent or transfer it to another

party such that greater than 20 percent of the waste (by weight) can evaporate into the atmosphere. Store waste solvent only in covered containers.

4. Repair solvent leaks immediately, or shutdown the degreaser.
5. Water should not be visibly detectable in the solvent exiting the water separator.

Control System F

Control Equipment:

1. Major control devices; the degreaser must be controlled by either:
 - a. Refrigerated chiller.
 - b. Carbon adsorption system, with ventilation ≥ 15 square meter/min per square meter (50 cfm/square foot) of air/vapor area (when down-time covers are open), and exhausting < 25 ppm of solvent by volume averaged over a complete adsorption cycle, or
 - c. System demonstrated to have control efficiency equivalent to or better than either of the above.
2. Either a drying tunnel, or another means such as rotating (tumbling) basket, sufficient to prevent cleaned parts from carrying out solvent liquid or vapor.
3. Safety switches
 - a. A device preventing heat input to the sump when condenser coolant is too warm or not circulating.
 - b. A device preventing spraying if the vapor level drops more than 4 inches (10 cm).
 - c. A device limiting the upper vapor level.
4. Minimized openings: Entrances and exits should silhouette work loads so that the average clearance (between parts and the edge of the degreaser opening) is either < 10 cm (4 in.) or < 10 percent of the width of the opening.
5. Down-time covers: Covers should be provided for closing off the entrance and exit during shut-down hours.

Operating Requirements:

1. to 5. Same as System A.

6. Down-time cover must be placed over entrances and exits of conveyorized degreasers immediately after the conveyor and exhaust are shutdown and removed just before they are started up.